186 FERC ¶ 61,199
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

18 CFR Part 35

[Docket No. RM22-14-001; Order No. 2023-A]

Improvements to Generator Interconnection Procedures and Agreements

(Issued March 21, 2024)

AGENCY: Federal Energy Regulatory Commission.

ACTION: Order on rehearing and clarification.

SUMMARY: In this order, the Federal Energy Regulatory Commission addresses arguments raised on rehearing, sets aside, in part, and clarifies Order No. 2023, which amended the Commission's regulations and its *pro forma* Large Generator Interconnection Procedures, *pro forma* Large Generator Interconnection Agreement, *pro forma* Small Generator Interconnection Procedures, and *pro forma* Small Generator Interconnection Agreement to address interconnection queue backlogs, improve certainty, and prevent undue discrimination for new technologies.

DATES: This rule is effective **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].**

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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Willie L. Phillips, Chairman;
Allison Clements and Mark C. Christie.

Improvements to Generator Interconnection Procedures and Agreements	Docket No. RM22-14-001

ORDER NO. 2023-A

ORDER ADDRESSING ARGUMENTS RAISED ON REHEARING, SETTING ASIDE PRIOR ORDER, IN PART, AND GRANTING CLARIFICATION

(Issued March 21, 2024)

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I. Background

1. On July 28, 2023, the Federal Energy Regulatory Commission (Commission) issued Order No. 2023.[1] Order No. 2023 required all public utility transmission providers to adopt revised *pro forma* Large Generator Interconnection Procedures (LGIP), *pro forma* Large Generator Interconnection Agreements (LGIA), *pro forma* Small Generator Interconnection Procedures (SGIP), and *pro forma* Small Generator Interconnection Agreements (SGIA).[2] These revisions ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely

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[1] *Improvements to Generator Interconnection Procs. & Agreements*, Order No. 2023, 88 FR 61014 (Sept. 6, 2023), 184 FERC ¶ 61,054 (2023).

[2] *Id.* P 1 n.1 ("Section 201(e) of the Federal Power Act (FPA) defines "public utility" to mean "any person who owns or operates facilities subject to the jurisdiction of the Commission under this subchapter." 16 U.S.C. § 824(e). A non-public utility that seeks voluntary compliance with the reciprocity condition of a tariff may satisfy that condition by filing a tariff, which includes the *pro forma* LGIP, the *pro forma* SGIP, the *pro forma* LGIA, and the *pro forma* SGIA. *See Standardization of Generator Interconnection Agreements & Procs.*, Order No. 2003, 68 FR 49846 (Aug. 19, 2003), 104 FERC ¶ 61,103, at PP 1, 616 (2003), *order on reh'g*, Order No. 2003-A, 69 FR 15932 (Mar. 26, 2004), 106 FERC ¶ 61,220, *order on reh'g*, Order No. 2003-B, 70 FR 265 (Jan. 4, 2005), 109 FERC ¶ 61,287 (2004), *order on reh'g*, Order No. 2003-C, 70 FR 37661 (June 30, 2005), 111 FERC ¶ 61,401 (2005), *aff'd sub nom. Nat'l Ass'n of Regul. Util. Comm'rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007) (*NARUC v. FERC*). As stated in the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and *pro forma* SGIA, transmission provider "shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electric energy in interstate commerce and provides transmission service under the [Transmission Provider's Tariff]. The term . . . should be read to include the Transmission Owner when the Transmission Owner is separate from the Transmission Provider." *Pro forma* LGIP section 1; *pro forma* LGIA art. 1; *pro forma* SGIP attach. 1; *pro forma* SGIA attach. 1.").

manner, and will prevent undue discrimination.[3] In Order No. 2023, the Commission adopted a comprehensive package of reforms in three general categories: (1) reforms to implement a first-ready, first-served cluster study process, (2) reforms to increase the speed of interconnection queue processing, and (3) reforms to incorporate technological advancements into the interconnection process.

2. To implement a first-ready, first served cluster study process, Order No. 2023: (1) required transmission providers to post public interconnection information in an interactive heatmap to provide interconnection customers information before they enter the queue; (2) eliminated individual serial feasibility and system impact studies and created a cluster study; (3) created a range of allowable allocations of cluster study costs; (4) required transmission providers to use a proportional impact method to assign network upgrade costs within a cluster; (5) required increased financial commitments and readiness requirements from interconnection customers, including increased study deposits, site control, commercial readiness deposits, an LGIA deposit, and required transmission providers to institute penalties for withdrawn interconnection requests; and (6) created a transition mechanism for moving to the cluster study process adopted in Order No. 2023 from the existing serial study process.[4]

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[3] Order No. 2023, 184 FERC ¶ 61,054 at P 1.

[4] *Id.* P 5.

3. To increase the speed of interconnection queue processing, Order No. 2023: (1) eliminated the reasonable efforts standard for completing interconnection studies and adopted study delay penalties applicable when transmission providers fail to complete interconnection studies by the deadlines in their tariff; and (2) established a more detailed affected system study process in the *pro forma* LGIP, including *pro forma* affected system agreements and uniform modeling standards.[5]

4. To incorporate technological advancements into the interconnection process, Order No. 2023: (1) required transmission providers to allow more than one generating facility to co-locate on a shared site behind a single point of interconnection and share a single interconnection request; (2) required transmission providers to evaluate the proposed addition of a generating facility to an existing interconnection request prior to deeming such an addition a material modification; (3) required transmission providers to allow interconnection customers to access the surplus interconnection service process once the original interconnection customer has an executed LGIA or requests the filing of an unexecuted LGIA; (4) required transmission providers, at the request of the interconnection customer, to use operating assumptions in interconnection studies that reflect the proposed charging behavior of electric storage resources; (5) required transmission providers to evaluate an enumerated list of alternative transmission technologies during the study process; (6) required each interconnection customer requesting to interconnect a non-

[5] *Id.* P 6.

synchronous generating facility to submit to the transmission provider certain specific models of the generating facility; (7) established ride through requirements during abnormal frequency conditions and voltage conditions within the "no trip zone" defined by NERC Reliability Standard PRC-024-3 or successor mandatory ride through reliability standards; and (8) required that all newly interconnecting large generating facilities provide frequency and voltage ride through capability consistent with any standards and guidelines that are applied to other generating facilities in the balancing authority area on a comparable basis.[6]

5. The Commission received 32 timely filed requests for rehearing and/or clarification, and two additional requests for clarification.[7] The rehearing requests raise issues related to nearly all reforms adopted in Order No. 2023.

6. Pursuant to *Allegheny Defense Project v. FERC*,[8] the rehearing requests filed in this proceeding may be deemed denied by operation of law. However, as permitted by section 313(a) of the Federal Power Act (FPA),[9] we are modifying the discussion in

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[6] *Id.* P 6.

[7] Appendix A provides the short names of the entities that filed requests for rehearing or clarification. Shell filed an answer. Rule 713(d)(1) of the Commission's Rules of Practice and Procedure (18 CFR 385.713(d)) prohibits an answer to a request for rehearing. Accordingly, we deny Shell's motion to answer and reject its answer.

[8] 964 F.3d 1 (D.C. Cir. 2020) (en banc).

[9] 16 U.S.C. § 825*l*(a) ("Until the record in a proceeding shall have been filed in a court of appeals, as provided in subsection (b), the Commission may at any time, upon reasonable notice and in such manner as it shall deem proper, modify or set aside, in

Order No. 2023, setting aside the order, in part, and clarifying the order, as discussed below.[10]

7. Specifically, we set aside the order, in part, to specify that: (1) where an interconnection customer is in the interconnection queue of a transmission provider that currently uses, or is transitioning to, a cluster study process and the transmission provider proposes on compliance to adopt new readiness requirements for its annual cluster study, the interconnection customer must comply with the transmission provider's new readiness requirements within 60 days of the Commission-approved effective date of the transmission provider's compliance filing, where such readiness requirements are applicable given the status of the individual interconnection customer in the queue; (2) a network upgrade that is required for multiple interconnection customers in a cluster may be considered a stand alone network upgrade if all such interconnection customers mutually agree to exercise the option to build; (3) transmission providers must complete their determination that an interconnection request is valid by the close of the cluster request window such that only interconnection customers with valid interconnection

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whole or in part, any finding or order made or issued by it under the provisions of this chapter.").

[10] *Allegheny Def. Project*, 964 F.3d at 16-17. In Appendices C, D, E, and F, we provide the revisions to the provisions of the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and *pro forma* SGIA made in this order on rehearing and clarification. Additionally, these Appendices reflect several non-substantive corrections in these appendices to address stylistic inconsistencies or clerical errors in some of the new and revised *pro forma* provisions.

requests proceed to the customer engagement window; and (4) acceptable forms of security for the Commercial Readiness Deposit and deposits prior to the Transitional Serial Study, Transitional Cluster Study, Cluster Restudy and the Interconnection Facilities Study should include not only cash or an irrevocable letter of credit, but also surety bonds or other forms of financial security that are reasonably acceptable to the transmission provider.

8. Additionally, we grant several clarifications on the following topics, as further discussed below: (1) conflicts with ongoing queue reform efforts; (2) public interconnection information; (3) cluster study process; (4) allocation of cluster network upgrade costs; (5) shared network upgrades; (6) withdrawal penalties; (7) study delay penalty and appeal structure; (8) affected systems; (9) revisions to the material modification process to require consideration of generating facility additions; (10) availability of surplus interconnection service; (11) operating assumptions for interconnection studies; (12) consideration of the enumerated alternative transmission technologies in interconnection studies; and (13) ride-through requirements.

9. Finally, in light of the revisions made to the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and *pro forma* SGIA herein, we extend the deadline for transmission providers to submit compliance filings until the effective date of this order (i.e., the new deadline for compliance with Order No. 2023 will be 30 days after the publication of this order in the Federal Register, and must include the further revisions reflected in this order).

II. Discussion

A. Need for Reform

1. Order No. 2023

10. The Commission stated that it found substantial evidence in the record to support the conclusion that the existing *pro forma* generator interconnection procedures and agreements were unjust, unreasonable, and unduly discriminatory or preferential.[11] Therefore, pursuant to FPA section 206, the Commission concluded that certain revisions to the *pro forma* open access transmission tariff and the Commission's regulations were necessary to ensure rates that are just, reasonable, and not unduly discriminatory or preferential. Specifically, the Commission found that the existing *pro forma* generator interconnection procedures and agreements were insufficient to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner, thereby ensuring that rates, terms, and conditions for Commission-jurisdictional services are just, reasonable, and not unduly discriminatory or preferential. The Commission stated that, absent reform, the interconnection process will continue to cause interconnection queue backlogs, longer development timelines, and increased uncertainty regarding the cost and timing of interconnecting to the transmission system. The Commission explained that these backlogs and delays, and the resulting timing and cost uncertainty, hinder the timely development of new generation and thereby

[11] Order No. 2023, 184 FERC ¶ 61,054 at P 37.

stifle competition in the wholesale electric markets resulting in rates, terms, and conditions that are unjust, unreasonable, and unduly discriminatory or preferential.

11. The Commission cited recent data to support its findings that the dramatic increase in the number of interconnection requests and limited transmission capacity are increasing interconnection queue backlogs across all regions of the country.[12] This data indicated that, as of the end of 2022, there were over 10,000 active interconnection requests in interconnection queues throughout the United States, representing over 2,000 gigawatts (GW) of potential generation and storage capacity.[13] These interconnection requests and the generating facilities they represent amount to the largest interconnection queue size on record, more than four times the total volume (in GW) of the interconnection queues in 2010, and a 40% increase over the interconnection queue size from just the year prior. The Commission explained that these trends are not exclusive to any specific region of the country; rather, every region, including regional transmission organizations (RTO), independent system operators (ISO), and non-RTOs/ISOs, has faced an increase in both interconnection queue size and the length of time interconnection customers are spending in the interconnection queue prior to

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[12] *Id.* P 38 (citing Energy Markets & Policy- Berkeley Lab, *Queued Up: Characteristics of Power Plants Seeking Transmission Interconnection*, 7-8 (Apr. 2023) (Queued Up 2023), https://emp.lbl.gov/sites/default/files/queued_up_2022_04-06-2023.pdf; Appendix B to Order No. 2023, which provided an overview of recent data based on reporting by transmission providers in compliance with Order No. 845).

[13] *Id.* (citing Queued Up 2023).

commercial operation in recent years. The Commission noted that the uncertainty and delays in the interconnection queues have resulted in fewer than 25% of interconnection requests, by capacity, reaching commercial operation between 2000 and 2017 in *any* region of the country—with some regions as low as 8%.

12. The Commission also cited recent data that interconnection customers are waiting longer in the interconnection queue before withdrawing their interconnection requests, even as overall interconnection study timelines are increasing in many regions.[14] Despite efforts to address these challenges, the Commission observed that interconnection queue backlogs and delays have persisted and worsened. For generating facilities built in 2022, wait times in the interconnection queue saw a marked increase from 2.1 years for generating facilities built in 2000-2010 to roughly five years for generating facilities built in 2022.

13. The Commission explained that delays in the interconnection study process are an important contributor to interconnection queue backlogs nationwide.[15] The Commission cited recent interconnection study metrics transmission providers filed with the Commission, as required by Order No. 845, which showed that of the 2,179 interconnection studies completed in 2022, 68% were issued late. At the end of 2022, an additional 2,544 studies were delayed (i.e., ongoing and past their deadline). All of the RTOs/ISOs

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[14] *Id.* P 39.

[15] *Id.* P 40.

except CAISO and most non-RTO/ISO transmission providers (14 of 38) reported pending delayed studies at the end of 2022.

14. The Commission found that numerous factors have contributed to the increasing volume of interconnection requests, including a rapidly changing resource mix, market forces, and emerging technologies.[16] The Commission also found that available transmission capacity has been largely or fully used in many regions, creating situations where interconnection customers face significant network upgrade cost assignments to interconnect their proposed generating facilities. As an example, the Commission cited a U.S. DOE report that found that interconnection costs in MISO doubled for generating facilities for which the interconnection studies were completed between 2019 and 2021 as compared to those completed prior to 2019, and cost estimates tripled for proposed generating facilities still active in the interconnection queue between the same time periods.[17] The Commission also noted that other reports show similar cost increases in NYISO and PJM.[18] The Commission found that this combination of increased volume of

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[16] *Id.* P 41.

[17] *Id.* (citing Joachim Seel et al., *Generator Interconnection Cost Analysis in the Midcontinent Independent System Operator (MISO) Territory*, 1, 4-5 (Oct. 2022), https://emp.lbl.gov/interconnection_costs.).

[18] *Id.* (citing Julia Mulvaney Kemp et al., *Interconnection Cost Analysis in the NYISO Territory* (Mar. 2023), https://emp.lbl.gov/publications/interconnection-cost-analysis-nyiso (showing that costs have doubled for generating facilities studied since 2017, relative to costs for generating facilities studied from 2006 to 2016); Joachim Seel et al., *Interconnection Cost Analysis in the PJM Territory* (Jan. 2023), https://emp.lbl.gov/publications/interconnection-cost-analysis-pjm (showing that costs for

interconnection requests and insufficient transmission capacity and therefore higher costs to interconnect, which can result in interconnection request withdrawals, has resulted in longer interconnection queue processing times and larger, more delayed interconnection queues.

15. The Commission explained that interconnection queue backlogs and delays have created uncertainty for interconnection customers regarding the timing and cost of ultimately interconnecting to the transmission system, which may lead to an increase in costs to consumers.[19] The Commission stated that delayed interconnection study results or unexpected cost increases can disrupt numerous aspects of generating facility development and such uncertainty, either on the part of transmission providers or interconnection customers, is ultimately passed through to consumers through higher transmission or energy rates. The Commission explained that increases in energy rates may result from wholesale customers having limited access to new and more competitive supplies of generation and that, conversely, efficient interconnection queues and well-functioning wholesale markets deliver benefits to consumers by driving down wholesale electricity costs.

16. Overall, due to continuing and increasing interconnection queue backlogs and study delays, the Commission found that the Commission's existing rules contained in

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recent "complete" generating facilities have doubled on average relative to costs from 2000-2019)).

[19] *Id.* P 43.

the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and *pro forma* SGIA resulted in rates, terms, and conditions for Commission-jurisdictional services that are unjust, unreasonable, and unduly discriminatory or preferential.[20] The Commission found that the problems described above lead to an inability of interconnection customers to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner, and hindered the timely development of new generation, thereby stifling competition in the wholesale electric markets. Therefore, the Commission found that reform to the Commission's existing *pro forma* generator interconnection procedures and agreements was necessary.

17. The Commission based its findings that the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and *pro forma* SGIA must be reformed on the following features: (1) the information (or lack thereof) available to prospective interconnection customers and the commitments required of them to enter and progress through the interconnection queue; (2) the reliance on a serial first-come, first-served study process and the reasonable efforts standard that transmission providers are held to for meeting interconnection study deadlines; (3) the protocols (or lack thereof) for affected system studies; (4) the provisions for studying new generating facility technologies and evaluating the list of alternative transmission technologies enumerated in Order No. 2023; and (5) the modeling or performance requirements (or lack thereof) for non-synchronous generating facilities,

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[20] *Id.* P 44.

including wind, solar, and electric storage facilities.[21] The Commission further explained each of these five features.

18. First, the Commission explained that, without a process by which an interconnection customer can obtain information about potential interconnection costs at a specific location or point of interconnection prior to submitting an interconnection request, it is difficult for interconnection customers to assess the commercial viability of a specific proposed generating facility prior to entering the interconnection queue.[22] The Commission also found that the *pro forma* interconnection procedures and agreements failed to include meaningful financial commitments and readiness requirements to enter and stay in the interconnection queue and lacked stringent requirements to establish the commercial viability of proposed generating facilities. As a result, the Commission explained, interconnection customers often submit multiple interconnection requests for proposed generating facilities at various points of interconnection, knowing that not all of them will reach commercial operation, as an exploratory mechanism to obtain information to allow the interconnection customer to choose to proceed with the interconnection request representing the most favorable site in terms of potential interconnection-related costs.

19. Second, the Commission explained that the existing serial first-come, first-served study process created incentives for interconnection customers to submit exploratory or

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[21] *Id.* P 45.

[22] *Id.* P 46.

speculative interconnection requests pursuant to which interconnection customers seek to secure valuable queue positions as early as possible, even if they are not prepared to move forward with the proposed generating facility.[23] Such generating facilities are often not commercially viable: thus, the interconnection customers ultimately withdraw their interconnection requests from the interconnection queue, which triggers reassessments and possible restudies by the transmission provider that can delay the timing and increase the cost to interconnect for lower-queued interconnection requests. The Commission found that the lack of access to information about a specific location or point of interconnection prior to submitting an interconnection request, the lack of any meaningful financial commitments in the *pro forma* interconnection procedures and agreements for interconnection customers to enter and stay in the interconnection queue, as well as the existing serial first-come, first-served study process, together incentivized interconnection customers to submit speculative interconnection requests that contribute to interconnection study backlogs, delays, and uncertainty, and, in turn, unjust and unreasonable Commission-jurisdictional rates.[24]

20. The Commission also found that interconnection queue backlogs and delays, and the accompanying uncertainty, have been further compounded because transmission

[23] *Id.* P 47.

[24] *Id.* P 48.

providers have limited incentive to perform interconnection studies in a timely manner.[25] The Commission stated that, despite pervasive delays in completing interconnection studies by transmission providers, transmission providers have faced few, if any, consequences for failing to meet their tariff-imposed study deadlines under the reasonable efforts standard. The Commission therefore found that the existing *pro forma* LGIP requirement for transmission providers to make a reasonable effort to meet interconnection study deadlines contributes to the interconnection study backlogs, delays, and uncertainty that erects barriers to new generation, resulting in Commission-jurisdictional rates that are unjust and unreasonable.

21. Third, the Commission found that, without requirements for how and when transmission providers should complete affected system studies, those studies often lag behind those completed by the transmission provider to whose transmission system the interconnection customer proposes to interconnect (the host transmission provider) and are sometimes completed very late in the interconnection process, causing an additional round of delays and cost uncertainty for interconnection customers.[26] Additionally, for transmission providers that have procedures for how to complete affected system studies in their tariffs or other documents (e.g., business practice manuals or joint operating agreements), the Commission found that those procedures are not consistent, may be hard

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[25] *Id.* P 50.

[26] *Id.* P 51.

for interconnection customers to locate, and may not represent the actual practices in use by the transmission provider, thus still creating uncertainty for interconnection customers. As a result, the Commission found that the lack of consistent requirements for affected system modeling and procedures results in Commission-jurisdictional rates that are unjust, unreasonable, and unduly discriminatory or preferential.

22. Fourth, the Commission found that the Commission's *pro forma* LGIP failed to accommodate the operating characteristics and technical capabilities of electric storage resources when it comes to specific interconnection procedures and modeling.[27] The Commission noted that interconnection queues predominantly consist of new technologies which have operating characteristics that differ from synchronous resources and were not anticipated when the Commission established the *pro forma* generator interconnection procedures and agreements in Order Nos. 2003 and 2006. The Commission noted that the existing *pro forma* generator interconnection procedures and agreements did not contemplate the operating characteristics or technical capabilities of electric storage resources, leading to electric storage resources being studied under inappropriate operating assumptions (e.g., charging at full capacity during peak load conditions) that result in the assignment of unnecessary network upgrades which increase costs to interconnection customers. Therefore, the Commission found that the inability to modify operating assumptions for electric storage resources pursuant to the *pro forma*

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[27] *Id.* P 52.

LGIP resulted in Commission-jurisdictional rates that are unjust, unreasonable, and unduly discriminatory or preferential.

23. The Commission also found that the existing *pro forma* interconnection procedures regarding material modifications did not provide for consistent evaluation of technology additions to an existing interconnection request, and that automatically deeming a request to add a generating facility to an existing interconnection request to be a material modification creates a significant barrier to access to the transmission system.[28]

24. Finally, the Commission found that the *pro forma* LGIP and *pro forma* SGIP failed to require the consideration of alternative transmission technologies that can be used as network upgrades and can be deployed more quickly and at a lower cost than, traditional network upgrades.[29] The Commission found that failing to require transmission providers to evaluate the enumerated list of alternative transmission technologies resulted in interconnection customers paying more than is just and reasonable to reliably interconnect new generating facilities, ultimately creating Commission-jurisdictional rates that are unjust, unreasonable, and unduly discriminatory or preferential.

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[28] *Id.* P 53.

[29] *Id.* P 54.

25. Fifth, the Commission found that the Commission's existing *pro forma* LGIP and *pro forma* SGIP did not include a modeling requirement for non-synchronous generating facilities, which is necessary to enable the transmission provider to assess and model the facility's ability to respond appropriately to transmission system disturbances.[30] The Commission explained that interconnection customers must submit accurate and validated models, which will prevent study delays and ensure that transmission providers identify the necessary interconnection facilities and network upgrades to accommodate the interconnection request and thus allow the appropriate assignment of interconnection costs to the interconnection request. Therefore, the Commission found that the lack of a modeling requirement for non-synchronous generating facilities in the *pro forma* LGIP and *pro forma* SGIP results in rates that are unjust, unreasonable, and unduly discriminatory or preferential. Additionally, the Commission explained that the physical characteristics of synchronous generating facilities allow them to continue to inject electric current during transmission system disturbances, as required by the *pro forma* LGIA and *pro forma* SGIA.[31] However, non-synchronous generating facilities did not face a comparable requirement and many cease injecting current during system disturbances through "momentary cessation," which creates reliability issues on the transmission system. The Commission stated that, without requirements for non-

[30] *Id.* P 55.

[31] *Id.* P 56.

synchronous generating facilities to remain connected to and synchronized with the transmission system during system disturbances, interconnection studies may not accurately model expected behavior and identify the appropriate interconnection facilities and network upgrades to accommodate the interconnection request, skewing the assignment of interconnection costs. As a result, the Commission found that the lack of comparable requirements for non-synchronous generating facilities to remain "connected to and synchronized with the [t]ransmission [s]ystem" in the *pro forma* LGIA and *pro forma* SGIA results in rates that are unjust, unreasonable, and unduly discriminatory or preferential.

26. The Commission further found that the reforms adopted in Order No. 2023 will improve the efficiency of study processes, reduce interconnection queue backlogs, and thereby ensure just, reasonable, and not unduly discriminatory or preferential rates.[32] The Commission explained that the majority of the individual reforms that the Commission adopted have already been implemented in one or more regions in order to improve the interconnection process, demonstrating incremental improvements. The Commission compiled a package of such reforms that, in their entirety, have not yet been adopted by any region, and will ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner.

[32] *Id.* P 59.

2. Requests for Rehearing and Clarification

27. Dominion seeks rehearing, asserting that the Commission exceeded its FPA section 206 authority by declaring all existing interconnection tariffs, including recently accepted reforms by PJM and Dominion Energy South Carolina (DESC), as unjust, unreasonable, and unduly discriminatory or preferential without substantial evidence.[33] Dominion asserts that the Commission did not establish a sufficient legal foundation to generically find that all tariffs are unjust and unreasonable.[34] Similarly, Indicated PJM TOs argue that the Commission arbitrarily and capriciously relied on inapposite and stale evidence to impose a generic replacement rate on early adopters of the cluster study approach.[35] PJM also argues that the generic findings underlying Order No. 2023 cannot apply to its Interconnection Process Reform Task Force (IPRTF) Tariff, which was filed and approved during the time period between issuance of the NOPR and Order No.

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[33] Dominion Rehearing Request at 2.

[34] *Id.* at 14 (citing *S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 71, 65 (D.C. Cir. 2014) (*S.C. Pub. Serv. Auth.*) ("To regulate a practice affecting rates pursuant to Section 206, the Commission must find that the existing practice is 'unjust, unreasonable, unduly discriminatory or preferential,' and that the remedial practice it imposes is 'just and reasonable.' These findings must be supported by 'substantial evidence[.]'"); *Emera Me. v. FERC*, 854 F.3d 9, 25 (D.C. Cir. 2017) (*Emera Me.*) ("[A] finding that an existing rate is unjust and unreasonable is the 'condition precedent' to FERC's exercise of its section 206 authority to change that rate. Section 206, therefore, imposes a 'dual burden' on FERC. Without a showing that the existing rate is unlawful, FERC has no authority to impose a new rate.")).

[35] Indicated PJM TOs Rehearing Request at 7, 17.

2023.[36] Therefore, PJM contends, the data underlying Order No. 2023 is stale as to PJM and its use does not constitute reasoned decision-making based on substantial evidence.

28. Dominion acknowledges that the Commission is able to rely on generic rulemakings to support an industry wide solution, but that Order No. 2023 goes beyond the limits of this authority.[37] Dominion argues that Order No. 2023's mandate is unlike the generic rulemaking upheld by the D.C. Circuit in *Transmission Access Policy Study Group v. FERC* because the rule at issue in that case, Order No. 888, represented a paradigm shift for which a generic rulemaking is appropriate.[38] Dominion asserts that the other generic rulemakings upheld by the courts similarly involve more wholesale reform than Order No. 2023, such as the expansion and creation of new Order No. 1000 planning obligations upheld in *S.C. Pub. Serv. Auth.*, or the Order No. 637 requirement for gas pipelines to permit segmentation where operationally feasible, upheld in *Interstate Natural Gas Association of America v. FERC*.[39] Dominion contends that the Commission's generic findings in Order No. 2023 are disproportionate to the evidence the Commission relies on. Similarly, Indicated PJM TOs assert that the Commission's

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[36] PJM Rehearing Request at 25-26.

[37] Dominion Rehearing Request at 12.

[38] *Id.* (citing *Transmission Access Pol'y Study Grp. v. FERC*, 225 F.3d 667 (D.C Cir. 2000) (*TAPS*), *aff'd sub nom. N. Y. v. FERC*, 535 U.S. 1 (2002)); *see also* Indicated PJM TOs Rehearing Request at 14.

[39] Dominion Rehearing Request at 12-13 (citing *S.C. Pub. Serv. Auth.*, 762 F.3d at 67; *Interstate Nat. Gas Ass'n of Am. v. FERC*, 285 F.3d 18 (D.C. Cir. 2002) (*INGAA*)).

generic finding is overbroad because many RTOs/ISOs have already adopted the core reforms in Order No. 2023.[40]

29. Dominion further argues that, while the courts have held that the Commission can address case-by-case discrepancies between the generic determination and specific tariffs during compliance filings, this cannot be considered an unlimited way for the Commission to avoid its obligation under the Administrative Procedure Act (APA) to rely on substantial evidence when making FPA section 206 decisions.[41] Dominion asserts that, because the Commission recently accepted revisions to PJM's and DESC's tariffs to address the same issue that Order No. 2023 attempts to address, the Commission must consider those tariffs individually and may not sweep them up in a generic determination based on evidence of queue backlogs made under previous tariffs and regions.

30. Dominion argues that Order No. 2023 was arbitrary and capricious because it relied on out-of-date data and ignored contrary data.[42] Dominion asserts that, although the Commission is not required to rely on "empirical evidence," the Commission must support its findings with substantial, up-to-date, evidence and cannot ignore new

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[40] Indicated PJM TOs Rehearing Request at 7, 17-18 (citing *PJM Interconnection, L.L.C.*, 181 FERC ¶ 61,162 (2022)).

[41] Dominion Rehearing Request at 14 (citing *INGAA*, 285 F.3d at 37).

[42] *Id.* at 2.

circumstances.[43] Dominion asserts that Order No. 2023 does not reflect reasoned decision-making as it relates to PJM and DESC because it relies on queue delays and backlogs that predate PJM's and DESC's revised interconnection reforms and it does not consider those currently effective interconnection reforms. Indicated PJM TOs point out that the Order No. 845 data the Commission relied on is stale because it concerns PJM's previous serial study process, and the Commission's reliance on that data is inconsistent with its decision to omit SPP's data from its consideration.[44]

31. Dominion argues that the Commission ignored evidence that PJM and DESC had recently adopted interconnection reforms to address the same problem addressed by Order No. 2023.[45] Indicated PJM TOs state that the Commission points repeatedly to problems associated with a serial study approach, which are irrelevant to regions that already implemented cluster studies.[46] Dominion and Indicated PJM TOs argue that the Commission should have considered whether PJM's, DESC's, and other similarly situated transmission providers' reforms are working or even had a chance to be fully

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[43] *Id.* at 10 (citing *S.C. Pub. Serv. Auth.*, 762 F.3d at 64-65).

[44] Indicated PJM TOs Rehearing Request at 18 n.45. Indicated PJM TOs specifically point to Order No. 2023's citation to Order No. 845 data showing the number of delayed studies as of the end of 2022, "with the vast majority of these studies (2,211)" coming from PJM, as stale data the Commission used to support the new obligations Order No. 2023 will impose. *Id.* at 17.

[45] Dominion Rehearing Request at 12.

[46] Indicated PJM TOs Rehearing Request at 18.

implemented.[47] Dominion argues that the Commission cited no evidence to demonstrate that PJM's tariff is unjust and unreasonable, and that it would be difficult to do so because PJM's transitional process began on July 10, 2023, so there is no data available to determine whether it is successful.[48] Similarly, Dominion notes that DESC's transition process began on June 13, 2022, was based on 12 months of stakeholder engagement, and includes many components of Order No. 2023. Dominion contends that reasoned decision-making should at least require the Commission to consider all relevant information, including information about the efficacy of reforms in existing tariffs that are attempting to address the same problem the Commission is relying upon to make its FPA section 206 determination.[49]

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[47] *Id.*; Dominion Rehearing Request at 13.

[48] Dominion Rehearing Request at 8-9.

[49] *Id.* at 13 (citing *Greater Bos. Television Corp. v. Fed. Communications Comm'n*, 444 F.2d 841, 851 (D.C. Cir. 1970) (an agency must give "reasoned consideration to all the material facts and issues" and "engage[] in reasoned decision making"); *Tarpon Transmission Co. v. FERC*, 860 F.2d 439, 442 (D.C. Cir. 1988) ("We cannot accept an agency determination unless it is the result of reasoned and principled decisionmaking that can be ascertained from the record."); *ANR Pipeline Co.*, 71 F.3d 897, 901 (D.C. Cir. 1995) ("[W]here an agency departs from established precedent without a reasoned explanation, its decision will be vacated as arbitrary and capricious."); *Tenneco Gas v. FERC*, 969 F.2d 1187, 1214 (D.C. Cir. 1992) ("Subsumed in the substantial evidence requirement is the expectation that agencies will treat fully each of the pertinent factors and issues before them." (internal citations omitted))).

32. Dominion also states that Order No. 2023 directly acknowledges that CAISO and some non-RTO/ISO transmission providers had no delayed studies at the end of 2022.[50] Dominion argues that, instead of supporting the Commission's finding that all interconnection processes are unjust and unreasonable, Order No. 2023 acknowledges that the problem is not as widespread as suggested and that intervening reforms similar to what Order No. 2023 requires may already be addressing the problem used to justify the FPA section 206 finding.

33. Dominion states that, where an industry-wide solution is imposed for a problem that only exists in isolated pockets, "the disproportion of remedy to ailment would, at least at some point, become arbitrary and capricious."[51] Dominion states that the Order No. 2023 compliance obligation essentially requires all existing processes to re-prove the justness and reasonableness of their processes, creating a remedy that is "disproportionate" to the identified problem.[52]

34. Dominion asks the Commission to confirm that, if compliance filings are required of early adopters like PJM and DESC, the Commission has the burden under FPA section 206 to find that existing processes recently adopted are unjust and unreasonable.[53]

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[50] *Id.* at 15-16 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 40).

[51] *Id.* at 13 (citing *Assoc. Gas Distribs. v. FERC*, 824 F.2d 981, 1019 (D.C. Cir. 1987) (*Assoc. Gas*)).

[52] *Id.* at 7-8 (citing Order No. 2023, 184 FERC ¶ 61,054 at PP 1762-1764).

[53] *Id.* at 16 (citing *INGAA*, 285 F.3d at 37-39).

Dominion asserts that the Commission must hew to the constraints created by FPA section 206 and cannot shift the burden to individual early adopters to defend their current rates.

3. Determination

35. We sustain our finding in Order No. 2023[54] that the existing *pro forma* generator interconnection procedures and agreements are unjust, unreasonable, and unduly discriminatory or preferential.[55] We also continue to find that Order No. 2023's revisions to the *pro forma* open access transmission tariff and the Commission's regulations are necessary to ensure rates that are just, reasonable, and not unduly discriminatory or preferential.

36. We note that Dominion's rehearing request misstates the Commission's generic finding as "declaring all existing interconnection tariffs, including recently accepted reforms by PJM and DESC, as unjust, unreasonable, and unduly discriminatory or preferential."[56] The findings in Order No. 2023 relate to the Commission's existing *pro forma* generator interconnection procedures and agreements, which, among other things, relied on a serial first-come, first-served study process.[57] The Commission did not make

[54] Order No. 2023, 184 FERC ¶ 61,054 at P 37.

[55] 16 U.S.C. § 824e(a); 18 CFR 385.206.

[56] Dominion Rehearing Request at 2.

[57] Order No. 2023, 184 FERC ¶ 61,054 at P 37.

any findings regarding specific transmission provider's tariffs, and it was not required to do so under FPA section 206.[58] Issues regarding the individual tariffs of specific transmission providers that currently deviate from the existing *pro forma* generator interconnection procedures and agreements will be addressed on an individual basis on compliance.[59]

37. We disagree with Dominion's argument that Order No. 2023 goes beyond the limits of our authority to rely on a generic rulemaking to support an industry-wide solution. As noted above, Order No. 2023 adopts reforms to the existing *pro forma* interconnection procedures and agreements, which themselves were adopted as an industry-wide reform to identified, industry-wide problems.[60] All three of the cases Dominion relies on support the Commission's authority to issue Order No. 2023.

38. When the D.C. Circuit upheld Order No. 888 in *TAPS*, the court specifically explained that the Commission can rely on general findings of systemic conditions to

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[58] *See, e.g., TAPS*, 225 F.3d at 687-88 (upholding Commission action under FPA section 206 premised on general systemic conditions rather than evidence regarding individual utilities); *S.C. Pub. Serv. Auth.*, 762 F.3d at 67 ("[T]he Commission may rely on 'generic' or 'general' findings of a systemic problem to support imposition of an industry-wide solution.") (citing *INGAA*, 285 F.3d at 37); *Assoc. Gas*, 824 F.2d at 1008 ("The Commission is not required to make individual findings, however, if it exercises its Natural Gas Act § 5 authority by means of a generic rule.").

[59] Order No. 2023, 184 FERC ¶ 61,054 at P 1765.

[60] *See id.* PP 8-12 (explaining the need for and adopting *pro forma* interconnection agreements and procedures); *see also NARUC v. FERC*, 475 F.3d at 1279 (explaining, at the outset, the structural connection between the nationwide reforms in Order No. 888 and those in Order No. 2003).

impose an industry-wide remedy under FPA section 206.[61] The court agreed with the Commission that specific evidence regarding individual utilities' behavior is not required under FPA section 206. Similarly, when upholding Order No. 637 in *INGAA*, the D.C. Circuit stated that "our cases have long held that the Commission may rely on 'generic' or 'general' findings of a systemic problem to support imposition of an industry-wide solution."[62] The D.C. Circuit explicitly rejected an argument that the Commission impermissibly shifted the burden of proof merely by requiring *pro forma* filings.[63] Several years later, when upholding Order No. 1000 in *S.C. Pub. Serv. Auth.*, the D.C. Circuit once again affirmed the Commission's ability to promulgate nationwide rules, in lieu of case-by-case adjudication, to solve a nationwide problem.[64] The court explained that, even though some regions had already satisfied some requirements of the rule, the deficiencies identified by the Commission did not only exist in "isolated pockets," and "[a]bsent such an extreme 'disproportion of remedy to ailment,' the Commission could reasonably proceed to address a systemic problem with an industry-wide solution."[65] Nothing in this precedent indicates that the Commission's authority to promulgate

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[61] *TAPS*, 225 F.3d at 687–88.

[62] *INGAA*, 285 F.3d at 37.

[63] *Id.* at 38.

[64] *S.C. Pub. Serv. Auth.*, 762 F.3d at 67.

[65] *Id.*

generic rulemakings under FPA section 206 depends upon the rule representing a paradigm shift. Rather, the precedent is clear that, where the Commission finds a systemic, nationwide problem that renders the rates, terms, and conditions for Commission-jurisdictional services unjust, unreasonable, unduly discriminatory, or preferential, the Commission has authority to implement a nationwide solution.[66]

39. Here, substantial evidence indicates that interconnection queue delays and backlogs are a nationwide problem, not a problem that only exists in isolated pockets. As explained in Order No. 2023, interconnection queue backlogs are increasing across all regions of the country, and "every single region has faced an increase in both interconnection queue size and the length of time interconnection customers are spending in the interconnection queue prior to commercial operation in recent years. This is true for RTO/ISO and non-RTO/ISO regions alike."[67] "[T]he uncertainty and delays in the interconnection queues have resulted in fewer than 25% of interconnection requests, by capacity, reaching commercial operation between 2000 and 2017 in *any* region of the country—with some regions as low as 8%."[68] Appendix B to Order No. 2023 shows that most transmission providers in the country were late in completing interconnection

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[66] *S.C. Pub. Serv. Auth.*, 762 F.3d at 67; *TAPS*, 225 F.3d at 687–88; *INGAA*, 285 F.3d at 37.

[67] Order No. 2023, 184 FERC ¶ 61,054 at P 38 (citing Queued Up 2023 at 7-9, 32).

[68] *Id.* (citing Queued Up 2023 at 3, 21).

studies in 2022.[69] We acknowledge that the data collected in compliance with Order No. 845 regarding PJM's queue reflected PJM's previous study process, which was recently reformed. However, excluding PJM's data would not change our overall conclusion that interconnection queue backlogs and late interconnection studies are a significant problem in most regions of the country. To the contrary, we continue to find that "the challenges being faced across the country will be further compounded in the future," [70] and that the multiple factors contributing to interconnection queue backlogs, longer development timelines, and increased uncertainty regarding the cost and timing of interconnecting to the transmission system, including increasing volume of interconnection requests, increased complexity in interconnection studies, and insufficient transmission capacity, are industry-wide challenges likely to persist and potentially worsen in the future.[71]

40. Moreover, due to the early stages of PJM's reforms, the instant record does not contain any information regarding the effects of such reforms, including whether PJM is meeting all study deadlines on time, the overall length of time to reach interconnection, or the portion of interconnection customers reaching commercial operation. Nor does the record support that any region, including PJM, is unaffected by the underlying factors that are persistent and increasing drivers of widespread interconnection queue delays and

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[69] *Id.* at app. B.

[70] *Id.* P 58.

[71] *Id.* P 41.

backlogs. Therefore, we continue to find that the systemic problems identified in Order No. 2023 warrant a nationwide solution.

41. In response to Dominion's contention that the Commission ignored evidence regarding recent queue reform efforts, we note that Order No. 2023 specifically referenced these ongoing queue reform efforts. The Commission stated:

> We recognize that many transmission providers have adopted or are in the process of adopting similar reforms to those adopted in this final rule. We do not intend to disrupt these ongoing transition processes or stifle further innovation. On compliance, transmission providers can propose deviations from the requirements adopted in this final rule – including deviations seeking to minimize interference with ongoing transition plans – and demonstrate how those deviations satisfy the standards[72] discussed above, which the Commission will consider on a case-by-case basis.[73]

In fact, in the NOPR underlying Order No. 2023, the Commission made clear that it reviewed these recent queue reform efforts, learned from them, and considered them in formulating a number of its proposals.[74]

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[72] Specifically, where transmission providers propose variations to the Order No. 2023 transition process, the Commission will evaluate such proposals under the consistent with or superior to standard for non-RTO transmission providers and the independent entity variation standard for RTOs/ISOs.

[73] Order No. 2023, 184 FERC ¶ 61,054 at P 1765.

[74] *Improvements to Generator Interconnection Procs. & Agreements*, 87 FR 39934 (July 5, 2022), 179 FERC ¶ 61,194, at PP 86-87, 112, 127, 132, 152-54 (2022) (NOPR).

42. However, as explained above, the Commission was not required to make FPA section 206 findings specific to PJM or DESC's queue reforms. The details of a specific transmission provider's tariff, and whether its recent queue reform complies with the new requirements of Order No. 2023, are appropriately handled on an individual basis on compliance.

43. We disagree with Dominion's argument that Order No. 2023's acknowledgement that some transmission providers had no delayed studies in 2022 indicates that the problem is not as widespread as suggested. The fact that a few transmission providers complete studies on time does not mean that the problem exists only in isolated pockets. As the D.C. Circuit explained in *S.C. Pub. Serv. Auth.*, the fact that a problem may not exist in every single region of the country "is as unastonishing as it is irrelevant, because petitioners have not shown that the deficiencies identified by the Commission exist[] only in isolated pockets."[75]

44. Moreover, substantial evidence indicates that these nationwide interconnection queue delays and backlogs result in rates, terms, and conditions in the wholesale electric markets that are unjust, unreasonable, and unduly discriminatory or preferential.[76] Interconnection queue delays and backlogs result in longer development timelines, uncertainty regarding the cost and timing of interconnecting to the transmission system,

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[75] *See S.C. Pub. Serv. Auth.*, 762 F.3d at 67 (citing *Wis. Gas. Co. v. FERC*, 770 F.2d 1144, 1157 (D.C. Cir. 1985) (*Wis. Gas.*); *Assoc. Gas*, 824 F.2d at 1019).

[76] Order No. 2023, 184 FERC ¶ 61,054 at PP 37, 44.

and ultimately higher rates, as "wholesale customers hav[e] limited access to new and more competitive supplies of generation."[77]

45. Further, we believe that the remedies adopted in Order No. 2023 are proportional to the issues identified. As explained in detail in Order No. 2023, each of the reforms the Commission adopted are directly related to the need to reform the *pro forma* generator interconnection procedures and agreements to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner, and will prevent undue discrimination.[78]

46. Further, we also believe that a generic, nationwide rulemaking is justified by the need for consistent interconnection policies that apply to all public utility transmission providers.[79] We continue to find that it is necessary to apply the reforms in Order No. 2023 on a nationwide basis to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely

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[77] *Id.* PP 37, 43 (citing May Joint Task Force Tr. 74:9-21 (Andrew French) (stating that generator developers complain about cost certainty); May Joint Task Force Tr. 23:18-25 (Jason Stanek) (expressing frustration with the status quo and agreement that it is "no longer tenable" considering the inability of generators to interconnect in a timely manner); Ameren Initial Comments at 2; ELCON Initial Comments at 2; ELCON Initial Comments at 2; Xcel Initial Comments at 8).

[78] *Id.* PP 45-56.

[79] *See* Order No. 2003, 104 FERC ¶ 61,103 at P 11 ("[T]here is a pressing need for a single set of [interconnection] procedures . . . [which] will minimize opportunities for undue discrimination and expedite the development of new generation, while protecting reliability and ensuring that rates are just and reasonable.").

manner, and to prevent undue discrimination. We further note that some of the critical reforms of Order No. 2023 could only have been achieved through a nationwide rulemaking; for instance, standardization of the affected systems study process requires rules that apply to all jurisdictional transmission providers.

47. For the reasons stated above, we disagree with Dominion's argument that the Commission bears the burden on compliance to find that recently adopted existing processes that deviate from the *pro forma* generator interconnection procedures and agreements are unjust and unreasonable.[80] We reiterate that the findings in Order No. 2023 relate to the Commission's existing *pro forma* generator interconnection procedures and agreements.[81] We note that, on compliance, the Commission will apply the consistent with or superior to standard for non-RTO transmission providers and the independent entity variation standard for RTOs/ISOs when analyzing deviations from the Commission's *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP and/or *pro forma* SGIA.[82]

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[80] Elsewhere in this order, the Commission clarifies that transmission providers need only re-file and seek approval for previously approved variations where those provisions are modified by Order No. 2023. *See infra* P 77.

[81] Order No. 2023, 184 FERC ¶ 61,054 at P 37.

[82] *See Xcel Energy Servs. Inc. v. FERC*, 41 F.4th 548, 557 (D.C. Cir. 2022) ("The Commission has used its discretion and expertise to craft the "consistent with or superior to" test for deviations from its *pro forma* rules.") (citing Order No. 2003, 104 FERC ¶ 61,103 at P 826); *see also Sacramento Mun. Util. Dist. v. FERC*, 428 F.3d 294, 296 (D.C. Cir. 2005) (explaining that utilities can deviate from the terms of the *pro forma* tariff if such deviations are consistent with or superior to the terms of the *pro forma*

48. In response to Indicated PJM TOs' contention that the Commission failed to grapple with the fact that many RTOs/ISOs already adopted the Commission's core substantive reforms before Order No. 2023 was issued, we acknowledge that many transmission providers have adopted many of the reforms in Order No. 2023. As explained above, that is not an accident. The Commission carefully examined recent queue reform proposals to identify best practices to implement nationwide. However, no transmission provider has yet adopted *all* of the reforms in Order No. 2023. For example, no transmission provider has eliminated the reasonable efforts standard for completing interconnection studies on time. We continue to believe that this broad suite of reforms, as a whole, is necessary to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner, thereby ensuring that rates, terms, and conditions for Commission-jurisdictional services are just, reasonable, and not unduly discriminatory or preferential.[83]

49. Regarding Indicated PJM TOs' argument that the Commission should have waited for recent queue reforms to be fully implemented before determining whether additional reforms are required, we disagree. Transmission providers across the country have been working on regional queue reform for well over a decade.[84] These proposals are filed at

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tariff).

[83] Order No. 2023, 184 FERC ¶ 61,054 at P 59.

[84] *Id.* P 16, n.39.

varying intervals, and at any given time, multiple transmission providers may be in the process of proposing or implementing new queue processes. By the time one or two particular transmission providers implement one set of queue reforms, it is likely that other transmission providers would be in the process of proposing or implementing their next queue reform. The Commission would be waiting a very long time indeed if it could not issue a generic rulemaking while any individual transmission provider pursues its own regional queue reform.[85]

50. Furthermore, we note that the Commission has historically taken a gradual approach to addressing problems with respect to interconnection queue backlogs. In Order No. 845, for instance, the Commission implemented a number of specific reforms, but held off on other reforms in favor of collecting further information from transmission providers.[86] In doing so, the Commission noted that "[t]his information could also be useful to the Commission in determining if additional action is required to address

[85] *Transmission Plan. & Cost Allocation by Transmission Owning & Operating Pub. Utils.*, Order No. 1000, 76 FR 49842 (Aug. 11, 2011), 136 FERC ¶ 61,051, at P 50 (2011) (finding that the need to generically establish rules addressing transmission planning, as well as the long lead times and complex problems associated with developing transmission facilities, made Commission action appropriate and prudent rather than allowing the noted transmission planning problems to persist).

[86] *Reform of Generator Interconnection Procs. & Agreements*, Order No. 845, 83 FR 21342 (May 9, 2018), 163 FERC ¶ 61,043, at P 24 (2018), *order on reh'g*, Order No. 845-A, 84 FR 8156 (Mar. 6, 2019), 166 FERC ¶ 61,137 (2019), *order on reh'g*, Order No. 845-B, 168 FERC ¶ 61,092 (2019).

interconnection study delays."[87] In Order No. 2023, the Commission determined that additional action was required to address interconnection study delays.[88] The reforms in Order No. 845 have not eliminated the problems of interconnection queue backlogs and delayed interconnection studies; rather, these problems have only grown, notwithstanding the Commission's previous reforms. We maintain that the reforms in Order No. 2023 are necessary to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner, thereby ensuring that rates, terms, and conditions for Commission-jurisdictional services are just, reasonable, and not unduly discriminatory or preferential.

B. Arguments Regarding Conflicts with Ongoing Queue Reform Efforts and Evaluation of Variations on Compliance

1. Order No. 2023 Requirements

51. The Commission addressed commenters' concerns regarding Order No. 2023's impact on early adopters of similar queue reforms or those queues currently in transition to a cluster study process. The Commission recognized that many of the individual reforms that the Commission adopted in Order No. 2023 are incremental improvements that one or more regions had already implemented.[89] The Commission explained that Order No. 2023 uses some of these individual and incremental improvements as a basis

[87] Order No. 845, 163 FERC ¶ 61,043 at P 309.

[88] Order No. 2023, 184 FERC ¶ 61,054 at P 3.

[89] *Id.* P 59.

for a broad suite of reforms that, in their entirety, have not yet been adopted by any region.

52. Additionally, the Commission rejected requests to presume that any transmission provider's tariff meets the requirements of Order No. 2023.[90] The Commission recognized that many transmission providers have adopted or are in the process of adopting similar reforms to those adopted in Order No. 2023 and clarified that the Commission did not intend to disrupt these ongoing transition processes or stifle further innovation.[91] The Commission emphasized that the provisions of Order No. 2023 are not intended to interfere with the timely completion of those in-progress cluster studies and transition processes.[92] The Commission explained that, on compliance, transmission providers can propose deviations from the requirements adopted in Order No. 2023, including deviations seeking to minimize interference with ongoing transition plans,[93] provided that the reason for the variation is sufficiently justified, and may continue to propose solutions to interconnection issues under FPA section 205.[94]

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[90] *Id.* P 1765.

[91] *Id.* PP 861, 1765.

[92] *Id.* P 861.

[93] *Id.* P 1765 (clarifying that transmission providers that have already adopted a cluster study process or are currently undergoing a transition to a cluster study process will not be required to implement a new transition process).

[94] *Id.* P 1767.

53. Therefore, consistent with Order Nos. 888, 890, 2003, 2006, and 845, the Commission adopted the NOPR proposal to continue to apply the consistent with or superior to standard when considering proposals from non-RTO/ISO transmission providers to deviate from the requirements of Order No. 2023.[95] Consistent with Order Nos. 2003, 2006, and 845, the Commission adopted the NOPR proposal to continue to use the "independent entity variation" standard when considering such proposals from RTOs/ISOs.[96] Consistent with Order Nos. 888, 890, 2003, 2006, and 845, the Commission adopted the NOPR proposal to continue to allow non-RTO/ISO transmission providers to use the regional differences rationale to seek variations made in

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[95] *Id.* P 1764 (citing *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Servs. By Pub. Utils,; Recovery of Stranded Costs by Pub. Utils. & Transmitting Utils.*, Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,769-770 (cross-referenced at 75 FERC ¶ 61,080); *Preventing Undue Discrimination & Preference in Transmission Serv.*, Order No. 890, 72 FR 12226 (Mar. 15, 2007), 118 FERC ¶ 61,119 at P 109 (2007) ("[W]e reiterate that any departures from the *pro forma* [open access transmission tariff] proposed by an ISO or an RTO must be 'consistent with or superior to' the *pro forma* [open access transmission tariff] in this Final Rule."); Order No. 2003, 104 FERC ¶ 61,103 at P 825; Order No. 2006, 111 FERC ¶ 61,220 at PP 546-547; Order No. 845, 163 FERC ¶ 61,043 at P 43 (explaining that a transmission provider that is not an RTO/ISO that seeks a variation from the requirements of the final rule must present its justification for the variation as consistent with or superior to the *pro forma* LGIA or *pro forma* LGIP)).

[96] *Id.* (citing Order No. 2003, 104 FERC ¶ 61,103 at P 826 ("[w]ith respect to an RTO or ISO . . . we will allow it to seek 'independent entity variations' from the Final Rule . . . This is a balanced approach that recognizes that an RTO or ISO has different operating characteristics depending on its size and location and is less likely to act in an unduly discriminatory manner than a Transmission Provider that is a market participant."); Order No. 2006, 111 FERC ¶ 61,220 at PP 447, 549; Order No. 845, 163 FERC ¶ 61,043 at P 556).

response to established (i.e., approved by the Applicable Reliability Council) reliability requirements.[97] The Commission explained that Order No. 2023 makes no changes to the standards used to judge requested variations, as described in Order Nos. 888, 890, 2003, 2006, and 845.

2. Requests for Rehearing and Clarification

54. Several entities request clarification regarding the scope of the application of Order No. 2023 to transmission providers that have already transitioned to, or that are in the process of transitioning to, a cluster study process.[98]

55. Clean Energy Associations and IPP Coalition ask the Commission to clarify that *all* existing cluster study processes must comport with the requirements of Order No. 2023, whether the transmission provider currently operates a cluster study process or is currently undergoing a transition to a cluster study process.[99] Clean Energy Associations and IPP

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[97] *Id.* (citing Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,770; Order No. 890, 118 FERC ¶ 61,119 at P 109; Order No. 2003, 104 FERC ¶ 61,103 at P 826 ("if on compliance a non-RTO or ISO Transmission Provider offers a variation from the Final Rule LGIP and Final Rule LGIA, and the variation is in response to established (i.e., approved by the Applicable Reliability Council) reliability requirements, then it may seek to justify its variation using the regional difference rationale."); Order No. 2006, 111 FERC ¶ 61,220 at PP 546-547; Order No. 845, 163 FERC ¶ 61,043 at P 43).

[98] Clean Energy Associations Rehearing Request at 51-52; Dominion Rehearing Request at 17-18; IPP Coalition Rehearing Request at 10-13; PacifiCorp Rehearing Request at 15-20; PJM Rehearing Request at 1-3; Revised Early Adopters Coalition Rehearing Request at 2-7; WIRES Rehearing Request at 12.

[99] Clean Energy Associations Rehearing Request at 51; IPP Coalition Rehearing Request at 10-11.

Coalition argue that interconnection customers that are currently in a cluster study process should be required to satisfy the requirements of Order No. 2023, including site control requirements, within an identified time horizon (*e.g.*, 60-90 days of the compliance filing) or withdraw from the interconnection queue without penalty.[100] Clean Energy Associations and IPP Coalition argue that, if some transmission providers are not required to transition to a process that is compliant with Order No. 2023, projects currently in the queue that are not ready to proceed will not face the increased readiness requirements and delay reforms to new queue requests, undermining the central purpose of Order No. 2023.[101]

56. Clean Energy Associations and IPP Coalition argue that, absent clarification, the Commission risks leaving in place a potentially problematic oversight.[102] Specifically, Clean Energy Associations and IPP Coalition assert that the notion that transmission providers that have adopted or are currently transitioning to a cluster study process will not be required to implement a new transition process runs counter to the requirement that transmission providers may seek approval, on a case-by-case basis, to maintain

[100] Clean Energy Associations Rehearing Request at 51; IPP Coalition Rehearing Request at 11-12.

[101] Clean Energy Associations Rehearing Request at 53; IPP Coalition Rehearing Request at 13.

[102] Clean Energy Associations Rehearing Request at 51; IPP Coalition Rehearing Request at 11.

variations from the *pro forma* LGIP and *pro forma* LGIA.[103] According to Clean Energy Associations and IPP Coalition, the fact that a transmission provider has an existing cluster study does not exempt that provider from its compliance obligation or the need to update its process to reflect the material elements of Order No. 2023.

57. NV Energy requests that the Commission clarify whether the new tariff changes are applicable to all interconnection customers, including those that currently participate in a cluster study process or have executed LGIAs.[104] Specifically, NV Energy requests that the Commission clarify if interconnection customers will be required to update their respective study deposits, provide commercial readiness deposits correlating to the amounts required at the various stages of the process, and update their site control documentation in order to remain in the queue.[105] NV Energy requests a one-time ability for existing interconnection customers of transmission providers who currently conduct cluster studies to withdraw penalty-free from the queue if they are unable to provide the updated study deposits, site control, commercial readiness deposits, etc.

58. NV Energy additionally requests clarification on whether a queued interconnection customer, whether in a current cluster study, with an executed facilities

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[103] Clean Energy Associations Rehearing Request at 51-52; IPP Coalition Rehearing Request at 11 (both citing Order No. 2023, 184 FERC ¶ 61,054 at P 1530).

[104] NV Energy Rehearing Request at 2 (citing Order 2023, 184 FERC ¶ 61,054 at P 861). NV Energy states that Order No. 2023 did not mention grandfathering any of the existing interconnection agreements. *Id.*

[105] *Id.* at 3.

study agreement, or with an executed LGIA, must provide the heightened proof of site control by the effective date of the new tariff changes.[106] NV Energy seeks clarity on whether: (1) existing queued interconnection customers are required to provide 90% of site control if not impacted by a regulatory limitation and are currently within the cluster study phase of the process; (2) existing queued interconnection customers with executed facilities studies agreements are required to provide 100% of site control if the site is not impacted by a regulatory limitation; (3) existing queued interconnection customers who are impacted by a regulatory limitation are required to update their deposit in lieu of site control to the new deposit amounts; and (4) existing queued interconnection customers with executed LGIAs who are impacted by a regulatory limitation are required to provide site control within 180 days of executing their respective LGIAs.

59. EEI asks the Commission to clarify that Order No. 2023 does not require transmission providers to re-file and seek approval for portions of their existing LGIA and LGIP that have previously been approved by the Commission and are not directly impacted by Order No. 2023.[107] EEI argues that it would be inappropriate for the Commission to require transmission providers to re-file and seek approval for such portions of their existing LGIAs and LGIPs because the Commission provided no notice that it was going to review or reconsider every change it has previously approved for

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[106] *Id.*

[107] EEI Rehearing Request at 2-3, 16.

LGIAs and LGIPs, and thus transmission providers were not given an opportunity to defend previously approved changes.[108] EEI argues that it would be a significant administrative burden for transmission providers to re-justify every change that the Commission has already approved.[109]

60. PJM asks the Commission to provide a clearer signal as to how it will take into account recently approved reforms such as PJM's IPRTF.[110] PJM states that its recent queue reform meets the Commission's intent in promulgating Order No. 2023, substantially satisfies its requirements, and is superior for the PJM region.[111] PJM explains that there are differences between the implementation mechanisms in its IPRTF Tariff and Order No. 2023, but that these mechanisms serve the same goals and offer the same protections and benefits.[112]

61. PJM states that it has begun its transition period, and unless the Commission provides more clarity as to how it will review recently approved queue reform processes in the Order No. 2023 compliance process, it will create substantial uncertainty that will

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[108] *Id.* at 16.

[109] EEI states that this would include changes that were approved by the Commission in response to other rulemakings, such as Order No. 845. *Id.* at 16-17.

[110] PJM Rehearing Request at 1-2.

[111] *Id.* at 1, 19-20.

[112] *Id.* at 19-23.

distract from the effort to process the queue backlog.[113] PJM seeks clarification that it will not be required to implement Order No. 2023 in a manner that would modify or undermine the procedures recently accepted by the Commission, and that the Commission will review PJM's request for an independent entity variation holistically, by examining whether the package as a whole is consistent with or superior to the goals and requirements of Order No. 2023 rather than forcing PJM to engage in an item-by-item justification of every variation from the minutiae of Order No. 2023's requirements.[114] PJM explains that requiring it to overhaul its tariff or justify each difference from the new *pro forma* will risk that some elements will be retained while other balancing elements will be changed, upsetting the balance that led to stakeholder approval.[115] PJM states that proceeding element by element through compliance will also provide intervenors an opportunity to re-litigate issues on which they did not prevail, which is contrary to judicial principles and would be a poor use of time.[116] PJM also explains that the elements of its tariff are interdependent, such that a piecemeal approach could undermine the entire tariff.

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[113] *Id.* at 2, 10.

[114] *Id.* at 3, 15.

[115] *Id.* at 15.

[116] *Id.* at 16.

62. If the Commission does not provide the requested clarifications, PJM seeks rehearing because the Commission should have established a presumption that ongoing, recently approved interconnection queue reform packages comply with Order No. 2023.[117] PJM explains that Order No. 2023 is internally inconsistent because it seeks to expedite the interconnection queue, and recognizes the efforts of on-going queue reform, but refuses to grant a presumption, which will cause delay and inefficiency.[118] PJM argues that it would be arbitrary and capricious and inconsistent with reasoned decision-making to require modification of PJM's tariff based on a generic rulemaking.[119] PJM also argues that failure to grant this rehearing will undermine confidence in the use of stakeholder processes.[120]

63. To the extent that the Commission does not grant PJM's request to provide a clear signal on rehearing that it will consider whether the entire package of IPRTF reforms as a whole meets the goals of Order No. 2023 rather than forcing PJM to engage in an extensive justification of every variation from every detail in Order No. 2023, PJM requests rehearing.[121]

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[117] *Id.* at 3, 25-26.

[118] *Id.* at 26.

[119] *Id.* at 3-4.

[120] *Id.* at 27.

[121] *Id.* at 24.

64. Dominion argues that the Commission should cure the deficiencies in Order No. 2023's approach to compliance for early adopters like DESC and PJM.[122] Dominion suggests that the Commission could simply not require entities that have already transitioned or are in the process of transitioning to a first-ready, first-served cluster study construct to file compliance filings. Dominion alternatively argues that the Commission could defer those entities' obligations to modify their tariffs, pending an appropriate period of time to gather evidence about whether their particular, Commission-approved reforms need to be further modified. Dominion asserts that this approach would be within the Commission's statutory bounds, is administratively efficient, and maintains the settled expectations of the stakeholders that worked diligently and collaboratively to develop transmission provider-specific reforms. Dominion asserts that the Commission has on several occasions directed entities to provide reports so that it can monitor situations before deciding it is necessary to take action.[123] Dominion argues that the Commission could then require such early adopters to provide an additional report after a period of time determined by the Commission, such as two full cluster cycles following

[122] Dominion Rehearing Request at 17.

[123] *Id.* at 17-18 (citing, for example, *One-Time Informational Reports on Extreme Weather Vulnerability Assessments Climate Change, Extreme Weather, & Elec. Sys. Reliability*, Order No. 897, 88 FR 41477 (June 27, 2023), 183 FERC ¶ 61,192, at P 25 (2023) (requiring one-time informational reports related to planning for the impacts of extreme weather on system reliability); *Hybrid Res.*, 174 FERC ¶ 61,034, at P 1 (2021) (requiring RTOs and ISOs to submit information related to hybrid resources)).

the transition, that would update the Commission on processing time under the proposed rule.

65. Dominion argues that, if the reports demonstrate that early adopters' processes are not meeting the goals of Order No. 2023, the Commission would then have a sufficient record, through the reports, to determine whether to direct further changes to conform with Order No. 2023.[124] Dominion contends that this compliance path for early adopters is superior to Order No. 2023's proposal and would allow transmission providers to demonstrate that the desired aim of Order No. 2023—facilitating quicker, more efficient interconnection processes—is being achieved.

66. Revised Early Adopter Coalition and PacifiCorp state that, to the extent a transmission provider does not seek or is not granted a variance for its existing interconnection reforms, such transmission provider appears to be required to immediately adopt the reforms in Order No. 2023 without any ability to start from a clean slate like other transmission providers utilizing a transition study process or to conclude any ongoing studies.[125] Revised Early Adopters Coalition and PacifiCorp argue that Order No. 2023 does not appear to allow early adopters of interconnection reforms an option to open the initial cluster request window under Order No. 2023 after the

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[124] *Id.* at 18.

[125] Revised Early Adopters Coalition Rehearing Request at 3; PacifiCorp Rehearing Request at 16.

conclusion of the study of existing interconnection requests.[126] Revised Early Adopters Coalition and PacifiCorp assert that, because many early adopters are currently in the process of one or more cluster studies, not allowing such early adopters to use a transition cluster study process is both unworkable for such transmission providers and also contrary to Order No. 2023's assurance that "the provisions of this final rule are not intended to interfere with the timely completion of those in-progress cluster studies and transition processes."[127]

67. Revised Early Adopters Coalition and PacifiCorp state that Order No. 2023 also appears to require early adopters to undertake an initial cluster request window prior to completion of cluster studies and/or restudies currently underway.[128] Revised Early Adopters Coalition and PacifiCorp argue that this would be an unexplained departure from prior precedent and the Commission's own statements in Order No. 2023.[129]

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[126] Revised Early Adopters Coalition Rehearing Request at 4; PacifiCorp Rehearing Request at 16. Revised Early Adopters Coalition note that the initial cluster request window under Order No. 2023 would open "after the conclusion of the transition process set out in Section 5.1 of this LGIP." Revised Early Adopters Coalition Rehearing Request at 3-4 (citing Order No. 2023, 184 FERC ¶ 61,054 at app. C, *pro forma* LGIP section 3.4.1).

[127] Revised Early Adopters Coalition Rehearing Request at 4, 7; PacifiCorp Rehearing Request at 16 (both citing Order No. 2023, 184 FERC ¶ 61,054 at P 861).

[128] Revised Early Adopters Coalition Rehearing Request at 6; PacifiCorp Rehearing Request at 18.

[129] Revised Early Adopters Coalition Rehearing Request at 2, 6; PacifiCorp Rehearing Request at 18 (both citing, for example, *Panhandle E. Pipe Line Co. v. FERC*, 196 F.3d 1273, 1275 (D.C. Cir. 1999) (*Panhandle*) ("if [FERC] wishes to depart from its

Revised Early Adopters Coalition and PacifiCorp assert that this will also interfere with the timely completion of current cluster studies because it will divert already strained resources to preparing for and implementing Order No. 2023's new provisions. Revised Early Adopters Coalition and PacifiCorp further argue that this will put early adopters in the difficult, if not impossible, situation of having to undertake new cluster studies under Order No. 2023 that are reliant on outcomes of existing, not-yet-completed, cluster studies.

68. Revised Early Adopters Coalition and PacifiCorp ask the Commission to clarify that early adopters of similar interconnection reforms, to the extent they do not seek or are not granted variances for their existing interconnection reforms, may conclude their pending/existing studies before transition to the new Order No. 2023 process.[130] Revised Early Adopters Coalition and PacifiCorp alternatively request that the Commission grant rehearing to permit such study flexibility for those transmission providers who have already adopted similar reforms to Order No. 2023. PacifiCorp argues that, without this flexibility, new cluster studies pursuant to Order No. 2023 may not be reliable as they will need to rely upon assumptions, including "higher priority requests" that were studied in prior interconnection studies and assumed to be in service.[131] PacifiCorp emphasizes

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prior policies, it must explain the reasons for its departure.")).

[130] Revised Early Adopters Coalition Rehearing Request at 2; PacifiCorp Rehearing Request at 15.

[131] PacifiCorp Rehearing Request at 19.

that this flexibility is imperative, given the size of its queue—326 active interconnection requests, accounting for over 59 gigawatts of requests.

69. Revised Early Adopters Coalition and PacifiCorp further assert that Order No. 2023 puts early adopters of interconnection reforms in a uniquely disadvantaged position of having to simultaneously administer two types of interconnection processes and, as a result, potentially expose them to greater likelihood of penalties than other transmission providers.[132] Revised Early Adopters Coalition asserts that exposing early adopters to such outsized risks would be arbitrary and capricious as well as discriminatory.[133]

70. Revised Early Adopters Coalition and PacifiCorp explain that, if permitted the flexibility above, any transmission provider that currently has one or more ongoing cluster studies pursuant to its Commission-accepted cluster study processes, and who has not sought and received a variance, would commence new cluster studies only after all pending interconnection request cluster studies (or restudies) have concluded and only under updated tariff provisions that are consistent with or superior to Order No. 2023.[134] Revised Early Adopters Coalition and PacifiCorp state that allowing such providers to

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[132] *Id.*; Revised Early Adopters Coalition Rehearing Request at 2-3, 6 (citing 5 U.S.C. § 706(2)(A); *Motor Vehicle Mfrs. Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (*Motor Vehicle Manufacturers*) (explaining that to survive review under the arbitrary and capricious standard, an agency must examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.') (internal citations omitted)).

[133] Revised Early Adopters Coalition Rehearing Request at 6.

[134] *Id.* at 6-7; PacifiCorp Rehearing Request at 19-20.

conclude their existing cluster studies before transition to the new *pro forma* study approach will preserve the interests of current interconnection customers that have been participating in the existing cluster study process as well as ease the administrative burden for such transmission providers.

71. Revised Early Adopters Coalition and PacifiCorp also request, in the alternative, that the Commission allow early adopters to use a transition process similar to other transmission providers, if such a process better suits their needs and facilitates expedient queue processing.[135] Revised Early Adopters Coalition and PacifiCorp request that, either through clarification or rehearing, the Commission ensure that early adopters have the flexibility to choose either Order No. 2023's transition process or the ability to implement Order No 2023's reforms after completing any existing cluster studies and restudies.

72. WIRES argues that Order No. 2023 also includes new requirements that need clarification or further consideration by the Commission.[136] WIRES states that it generally agrees that the shift from a serial study process to a cluster study process is likely to result in greater efficiency and provide more certainty but argues that the Commission has not explained how this new requirement will sync up with ongoing

[135] Revised Early Adopters Coalition Rehearing Request at 7; PacifiCorp Rehearing Request at 20.

[136] WIRES Rehearing Request at 12.

efforts that are already under way. WIRES requests that the Commission clarify how it plans to accommodate those ongoing efforts.

3. Determination

73. We clarify that all transmission providers, including those with existing cluster study processes, have a compliance obligation to review and modify their current *pro forma* interconnection procedures and *pro forma* interconnection agreements to comply with Order No. 2023. However, we continue to find that transmission providers that have already adopted a cluster study process or are currently undergoing a transition to a cluster study process will not be required to implement the transition process laid out in Order No. 2023,[137] and thus further clarify that such transmission providers are not required to file *pro forma* LGIP section 5 (Procedures for Interconnection Requests Submitted Prior to Effective Date of the Cluster Study) and the related appendices in their compliance filings.

74. However, in response to the arguments raised by Revised Early Adopters Coalition and PacifiCorp, we note that Order No. 2023 does not prohibit such transmission providers from adopting the transition process established in Order No. 2023. Therefore, a transmission provider that does not seek or is not granted a variance for its existing cluster study process and adopts the reforms in Order No. 2023 would be able to use the Order No. 2023 transition process. Where transmission providers propose

[137] Order No. 2023, 184 FERC ¶ 61,054 at P 861.

variations to the Order No. 2023 transition process, the Commission will evaluate such proposals under the consistent with or superior to standard for non-RTO transmission providers and the independent entity variation standard for RTOs/ISOs. A transmission provider currently conducting a cluster study process that does not propose to conduct an Order No. 2023 transition process must comply with the remaining requirements of Order No. 2023 other than the transition process.

75. We further grant clarification in response to requests seeking to clarify the applicability of the Order No. 2023 readiness requirements to a transmission provider currently conducting a cluster study process. On compliance, unless it proposes a variation, such a transmission provider must adopt the Order No. 2023 readiness requirements;[138] those new readiness requirements are then to be applied based on the interconnection customer's progress in the queue as of 60 calendar days after the Commission-approved effective date of the transmission provider's compliance filing. Within 60 calendar days of the Commission-approved effective date of the transmission provider's Order No. 2023 compliance filing, interconnection customers that have not executed an LGIA or requested an LGIA to be filed unexecuted with the Commission must meet the transmission provider's new readiness requirements for the relevant study phase, such as updating their respective study deposits, providing commercial readiness deposits correlating to the amounts required at the various stages of the process, and

[138] *Id.* PP 490-813.

demonstrating site control. Interconnection customers that must meet the transmission provider's new readiness requirements may withdraw within the 60 days after the Commission-approved effective date of the transmission provider's Order No. 2023 compliance filing without being subject to Order No. 2023 withdrawal penalties. If the interconnection customer chooses to withdraw outside this 60-day timeline, the interconnection customer will be subject to the new withdrawal penalties. To reflect these clarifications, we set aside Order No. 2023, in part, and add new section 5.1.2 to the *pro forma* LGIP.[139]

76. In response to NV Energy, we clarify that the requirement to meet the new site control requirements also requires that a queued interconnection customer, whether in a

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[139] New *pro forma* LGIP section 5.1.2:

5.1.2 Transmission Providers with Existing Cluster Study Processes or Currently in Transition

If Transmission Provider is not conducting a transition process under Section 5.1.1, it will continue processing interconnection requests under its current Cluster Study Process. Within 60 calendar days of the Commission-approved effective date of Transmission Provider's Order No. 2023 compliance filing, Interconnection Customers that have not executed an LGIA or requested an LGIA to be filed unexecuted must meet the requirements of Sections 3.4.2, 7.5, or 8.1 of this LGIP, based on Interconnection Customer's Queue Position.

Any Interconnection Customer that fails to meet these requirements within 60 calendar days of the Commission-approved effective date of this LGIP shall have its Interconnection Request deemed withdrawn by Transmission Provider pursuant to Section 3.7 of this LGIP. In such case, Transmission Provider shall not assess the Interconnection Customer any Withdrawal Penalty.

current cluster study or with an executed facilities study agreement (but not an interconnection customer with an executed LGIA or that has requested an LGIA to be filed unexecuted with the Commission), that is facing regulatory limitations must also submit the applicable deposit and information regarding the specific limitation within 60 days after the Commission-approved effective date of the transmission provider's compliance filing. An interconnection customer that withdraws within the 60-day period instead of submitting the applicable deposit and information will not be subject to Order No. 2023 withdrawal penalties.

77. We agree with EEI that transmission providers need only re-file and seek approval for previously approved variations where those provisions are modified by Order No. 2023. As the Commission explained in Order No. 2023, the Commission adopted requirements that are part of the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and *pro forma* SGIA and the Commission therefore only addressed the interaction of the requirements adopted with existing requirements that are part of the *pro forma* process and not variations thereto.[140] Transmission providers may seek variations from Order No. 2023's requirements on compliance provided the reason for the variation is sufficiently justified.[141] Transmission providers may also continue to propose

[140] Order No. 2023, 184 FERC ¶ 61,054 at P 1530.

[141] *Id.* P 1767.

interconnection process enhancements beyond Order No. 2023 through a separate filing under FPA section 205.

78. We reject requests to presume that any transmission provider's tariff meets the requirements of Order No. 2023.[142] As explained above, while the majority of reforms adopted herein are based on individual and incremental improvements that one or more regions have already implemented, no transmission provider has yet to adopt the entirety of Order No. 2023's broad suite of reforms.[143] Thus, we are unpersuaded by PJM's arguments on rehearing that ongoing, recently approved interconnection queue reform packages presumably already comply with Order No. 2023. Applying a presumption to transmission providers who recently adopted some similar reforms, but not all the reforms contained herein, will only result in incomplete change that fails to fulfill or further delays the comprehensive reform required by Order No. 2023. Additionally, because the Commission continues to find that the record supports a generic rulemaking,[144] the Commission reiterates that it did not need to make a finding specific to each transmission provider's tariff to require compliance with Order No. 2023.[145] Therefore, we also remain unpersuaded by Dominion's arguments on rehearing to defer

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[142] *Id.* P 1765.

[143] *Id.* P 59.

[144] Order No. 2023, 184 FERC ¶ 61,054 at P 1766; *supra* section II.A.3.

[145] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1766 (citing *TAPS*, 225 F.3d at 687-88).

the tariff modifications of, or to not require compliance filings from, transmission providers that have already transitioned or are in the process of transitioning to a cluster study process or to defer those entities' obligations to modify their tariffs.

79. In response to requests for clarification regarding how the Commission will review the compliance filings of entities that already adopted reforms, we continue to find, consistent with the Commission's statements in Order No. 2023, that transmission providers may explain specific circumstances on compliance and justify why any deviations from the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and *pro forma* SGIA are either consistent with or superior to the reforms adopted in Order No. 2023 for non-RTO transmission providers or merit an independent entity variation for RTOs/ISOs.[146] An item-by-item justification must be offered for each variation from the *pro forma* provisions modified in Order No. 2023; general statements alone are insufficient under the consistent with or superior to or the independent entity variation standard. Region-specific concerns like those raised by PJM and Dominion are appropriately addressed on compliance where the Commission will review the compliance filings on a case-by-case basis.

[146] *Id.* PP 1764-1765.

C. Reforms to Implement a First-Ready, First-Served Cluster Study Process

1. Public Interconnection Information

a. Order No. 2023 Requirements

80. In Order No. 2023, the Commission adopted section 6.1 (Publicly Posted Interconnection Information) of the *pro forma* LGIP to require transmission providers to maintain and make publicly available an interactive visual representation of available interconnection capacity (commonly known as a "heatmap") as well as a table of relevant interconnection metrics that is produced in response to user-specified input about their prospective generating facility.[147] The table will allow prospective interconnection customers to see certain estimates of a potential generating facility's effect on the transmission provider's transmission system. Specifically, the Commission required transmission providers to post on their public website a heatmap of estimated incremental injection capacity (in MW) available at each point of interconnection to the whole transmission provider's footprint under N-1 conditions, as well as provide a table of results in response to a specific user's input showing the estimated impact of the addition of the proposed project (based on the user-specified MW amount, voltage level, and point of interconnection) for each monitored facility impacted by the proposed project on: (1) the distribution factor; (2) the MW impact (based on the proposed project size and the distribution factor); (3) the percentage impact on the monitored facility (based on the

[147] *Id.* P 135.

MW values of the proposed project and the monitored facility rating); (4) the percentage of power flow on the monitored facility before the proposed project; and (5) the percentage power flow on the monitored facility after the injection of the proposed project. The Commission required that heatmaps be calculated under N-1 conditions and studied based on the power flow model of the transmission system used in the most recent cluster study or restudy, and with the transfer simulated from each point of interconnection to the whole transmission provider's footprint (to approximate NRIS), and with the incremental capacity at each point of interconnection decremented by the existing and queued generation at that location (based on the existing or requested interconnection service limit of such generation). The Commission required transmission providers to update their heatmaps within 30 calendars days after the completion of each cluster study and cluster restudy. Further, the Commission clarified that transmission providers are not required to make their heatmaps available until after their transition period.[148]

b. Requests for Rehearing and Clarification

81. Clean Energy Associations ask the Commission to clarify that transmission providers may use ERIS or NRIS assumptions for their heatmaps, as appropriate for their particular region.[149] Clean Energy Associations argue that the requirement to use only

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[148] *Id.* P 141.

[149] Clean Energy Associations Rehearing Request at 48-49.

NRIS assumptions fails to account for regional differences and could reduce the value of providing a heatmap. For example, Clean Energy Associations assert that in SPP and MISO, ERIS is the primary driver of determining network upgrades for new generation. If the Commission declines to grant clarification, Clean Energy Associations seek rehearing of the requirement to use NRIS assumptions for heatmaps.

82. Non-RTO Providers request rehearing and modification of Order No. 2023's requirement that non-RTO/ISO transmission providers develop interactive heatmap websites.[150] Non-RTO Providers assert that the mandate is arbitrary and capricious and contrary to reasoned decision-making. Non-RTO Providers state that the Commission did not perform an adequate cost-benefit analysis to weigh the high cost and administrative burden on non-RTO transmission providers against the "limited and speculative benefits" of the heatmaps for non-RTO/ISO interconnection customers.[151] Non-RTO Providers assert that the mandate will require the 37 non-RTO/ISO regions[152] to each develop separate heatmap websites. Non-RTO Providers estimate that the cumulative upfront cost for these 37 heatmap websites is $7.4 million, and that the cumulative annual maintenance cost for the 37 heatmap websites is $666,000. Non-RTO

[150] Non-RTO Providers Rehearing Request at 1-2.

[151] *Id.* at 3.

[152] Non-RTO Providers arrive at this number by subtracting the RTOs/ISOs from the 44 transmission providers estimated to be required to comply with Order No. 2023. *Id.* n.6.

Providers assert that the heatmaps will require regular attention from interconnection engineers who will otherwise be focused on transitioning to cluster studies. Non-RTO Providers contend that the heatmap requirement amounts to a penalty on non-RTO/ISO transmission providers, who cannot socialize the costs as broadly as RTOs/ISOs can.[153] Non-RTO Providers request that the Commission reverse the mandate on rehearing and (1) issue a modified version of section 6.1 of the *pro forma* LGIP for non-RTO regions that allows static public information postings of interconnection capacity based on cluster study results and (2) adopt a voluntary approach for the potential development and maintenance of interactive heatmaps in non-RTO regions.

83. Non-RTO Providers note that the heatmap concept is a novel concept and that transmission providers have no special expertise in website development.[154] Non-RTO Providers contend that the legal question on rehearing is whether the benefits of a proposed reform can reasonably be said to outweigh the costs and assert that the Commission did not provide sufficient legal foundation under FPA section 206 to justify the mandate. Non-RTO Providers aver that the Commission did not acknowledge that interactive websites make financial sense only when done at scale. Therefore, Non-RTO Providers agree that the costs of the requirement are justified for RTO/ISO regions, which would require seven websites to serve approximately two-thirds of the nation's

[153] *Id.* at 4.

[154] *Id.* at 4-5.

transmission system, but not for non-RTO/ISO regions, which would have to develop 37 websites to serve the remaining one-third of the transmission system. Non-RTO Providers explain that the Commission appears to prohibit non-RTO/ISO regions from developing joint, regional heatmaps to reduce the number of websites needed, which they claim demonstrates that the cost burden and administrative burden on engineering staff to non-RTO/ISO regions was not adequately considered.[155]

84. Non-RTO Providers contend that the Commission wrongly relies on Clean Energy Associations' proposition that the heatmaps will be automated to conclude that engineering resources will not be strained by the heatmap requirement.[156] Non-RTO Providers state that such updates will require one or two full-time employees to prepare data for the first three weeks of a given 30-day update period and send the updated data to the vendor during the last week. Non-RTO Providers contend that the N-1 conditions reflected by the heatmap will offer no practical value to prospective interconnection customers but will result in five times as many engineering staff in non-RTOs/ISOs making heatmap updates compared to those in RTOs/ISOs.[157] Non-RTO Providers contend that the Commission did not adequately address these discrepancies in arguing that non-RTOs/ISOs have the technical capacity to create heatmaps.

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[155] *Id.* at 5-6.

[156] *Id.* at 6 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 89).

[157] *Id.* at 6-7.

85. Further, Non-RTO Providers argue that the record does not demonstrate that the incremental rate increase to non-RTO/ISO regions from the heatmaps will be justified by meaningful overall queue efficiency improvements for non-RTO/ISO customers in the long run.[158] For example, Non-RTO Providers contend that the Commission failed to consider that heatmaps could increase speculative interconnection requests if many interconnection customers seek to interconnect at the same uncongested points reflected by the heatmap. For the above reasons, Non-RTO Providers argue that the connection between improving queue efficiency and benefits to transmission customers is too tenuous to support a FPA section 206 finding that the heatmap mandate is just and reasonable for non-RTO transmission providers.[159]

86. Non-RTO Providers claim that the Commission erred by failing to consider a non-interactive website alternative for the public information posting mandate in non-RTO regions.[160] Non-RTO Providers state that the Commission never explains why such information needs to be provided in an interactive heatmap format, rather than in static public information postings regarding system conditions after each cluster study or restudy.

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[158] *Id.* at 8.

[159] *Id.* at 9.

[160] *Id.*

87. In the alternative to granting rehearing, Non-RTO Providers propose that the Commission revise section 6.1 of the *pro forma* LGIP to allow static data postings and adopt a voluntary funding approach for heatmap development in non-RTO Regions.[161] In particular, Non-RTO Providers state that they are not opposed to providing increased public access to base case data after cluster studies have been performed that shows the estimated incremental injection capacity (in megawatts) available at each bus in the transmission provider's footprint under N-1 conditions in table format. Non-RTO Providers explain that data in this format could still be uniform and standardized to the Commission's specifications.[162] Non-RTO Providers state that with the voluntary funding approach, website developers aligned with any of the relevant stakeholders, including transmission providers and prospective interconnection customers and even the Commission itself, would be free to develop their own voluntary interactive heatmaps based on this publicly available data.

88. NV Energy requests clarification on (1) whether the heatmap must include proposed network upgrades with capacity amounts to reflect the available transfer capacity or only the existing facilities and (2) when a heatmap must be made available and posted to OASIS by transmission providers that do not conduct a new transition

[161] *Id.* at 10.

[162] *Id.* at 11.

period.[163] NV Energy asserts that, presently, the heatmap will provide limited value and will be consistently red[164] because interconnection requests greatly exceed the available capacity or load.[165] NV Energy asks if the heatmap requirement for transmission providers already conducting cluster studies could be implemented at the same time as study penalties (after the third cluster study cycle/three years), which would allow transmission providers to issue requests for proposals for the necessary heatmap software for implementation and would allow suspended projects to withdraw as well as remove from the queue those that fail to (1) submit complete applications, (2) meet various deadlines, and (3) reach commercial readiness.

89. PacifiCorp likewise seeks clarification on when transmission providers will be required to submit heatmaps for those transmission providers that do not conduct a transition cluster study process because the Commission is not requiring transmission providers to submit heatmaps until *after* the transition period ends.[166]

90. Public Interest Organizations assert that the Commission erred by not providing an adequate method for prospective interconnection customers to obtain information about

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[163] NV Energy Rehearing Request at 4.

[164] An "all red" heatmap would indicate no available interconnection capacity. *See* Order No. 2023, 184 FERC ¶ 61,054 at P 157.

[165] NV Energy Rehearing Request at 4.

[166] PacifiCorp Rehearing Request at 22-23 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 141).

potential interconnection costs at a specific location prior to submitting an interconnection request, and that the limited information publicly available to interconnection customers will lead to unjust, unreasonable, unduly discriminatory, and preferential rates.[167] Public Interest Organizations also note that the level of cost uncertainty for different interconnection customers is not balanced because transmission owner affiliates, particularly in non-RTO/ISO regions, have greater access to interconnection cost information relative to independent power producers. Public Interest Organizations contend that the Commission's decision to not adopt the proposed informational studies and optional solicitation studies make Order No. 2023's adopted reforms insufficient to remedy its finding that the *pro forma* interconnection procedures "fail[] to contain a process by which an interconnection customer can obtain information about potential interconnection costs at a specific location or point of interconnection prior to submitting an interconnection request."[168] Public Interest Organizations explain that both the informational studies and optional solicitation studies were specifically intended to provide additional cost information to prospective interconnection customers, while the public access information requirement was intended to provide high-level

[167] Public Interest Organizations Rehearing Request at 7.

[168] *Id.* at 8 (citing Order No. 2023, 184 FERC ¶ 61,054 at PP 46, 152).

information to assist interconnection customers with comparing multiple points of interconnection and estimate congestion.[169]

91. Public Interest Organizations state that many parties suggested that the Commission add more data to the heatmap to provide information for interconnection customers to readily identify network upgrades, which would help them estimate the costs to interconnect their project before they join the interconnection queue.[170] Public Interest Organizations note, for example, that NextEra suggested including information on the circuit and ratings of equipment, and Public Interest Organizations argued that the heatmaps should include information on the number of megawatts that could be interconnected without substantial costs, among other suggestions. Public Interest Organizations argue that, without such additional data, interconnection customers continue to bear the burden of determining potential costs, and that not all interconnection customers possess the resources to use software or hire consultants to extract meaningful data from the heatmaps. Public Interest Organizations contend that the heatmap requirement ultimately falls short of providing a reasonable method for interconnection customers to predict potential network upgrade costs prior to entering the queue, leading interconnection customers to make the "rational" decision to submit multiple interconnection requests to obtain information, which contributes to study delays

[169] *Id.* (citing Order No. 2023, 184 FERC ¶ 61,054 at P 68).

[170] *Id.* at 9-10.

and withdrawals. For these reasons, Public Interest Organizations request the Commission revisit the record to evaluate and adopt requirements that transmission providers must also make available the additional data that will allow all customers to estimate the potential network upgrade costs using reasonable efforts.

92. Public Interest Organizations further assert that the Commission's decision not to require more information be made publicly available to potential interconnection customers is arbitrary and capricious, contrary to the weight of the comments and record, and not based on substantial evidence.[171] Public Interest Organizations argue that the Commission's finding that adding any additional data requirements to assist interconnection customers is outweighed by the potential burden to transmission providers failed to consider countervailing evidence of the benefits of additional data. Public Interest Organizations assert that the benefits of providing cost information prior to interconnection customers submitting an interconnection request is clear: fewer speculative interconnection requests and therefore less backlogged queues. However, Public Interest Organizations contend that MISO's heatmap demonstrates that a heatmap alone is not enough. Public Interest Organizations also argue that the marginal burden on transmission providers to provide additional heatmap data is minimal as they can take advantage of automation.

[171] *Id.* at 10-12.

93. PJM seeks rehearing of Order No. 2023's blanket requirement to update the heatmap 30 calendar days after completion of each cluster study because PJM states that it is unreasonable for such a large, multi-state RTO like PJM with hundreds of expected interconnection requests in each cluster.[172] PJM states that publishing study results to its interconnection screening tool, queue scope, requires detailed, precise analysis using the latest inputs available at the time and would hold PJM to an unrealistically strict and expedited schedule of updating data, tools, simulations, and results, and the fact that such publishing would be necessary several times a year is burdensome and adds to the scope of study work required, taking resources away from other processing efforts. PJM instead anticipates annually published studies. PJM also states that "the models" are already made available to interconnection customers via a Critical Energy Infrastructure Information (CEII) request and can provide information about points of interconnection.

94. PJM requests rehearing of Order No. 2023's clarification in P 162, which it interprets as stating that transmission providers must absorb heatmap costs but are not barred from seeking recovery of them through their transmission rates (and paid by interconnection customers).[173] PJM states that interconnection customers, rather than transmission providers or transmission customers, benefit from heatmap posting, so there is no good reason that transmission providers must always charge the costs of

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[172] PJM Rehearing Request at 23-24.

[173] *Id.* at 42-43.

maintaining and posting heatmaps to transmission service customers rather than considering other structures such as fees for prospective developers not yet in the queue. PJM states that this rule departs from the Commission's and judicial cost-causation principles, requiring that costs should be paid by those who benefit from their incurrence,[174] and it does so (by assigning heatmap costs to transmission providers or transmission customers) without explanation, presents free-ridership issues, and would be arbitrary and capricious.[175] PJM asserts that not granting rehearing of this item would set a precedent that transmission providers must absorb or pass on to transmission customers costs that are caused by or that benefit interconnection customers only.

c. Determination

95. We deny Clean Energy Associations' request for the Commission to clarify that transmission providers may use ERIS or NRIS assumptions for their public heatmaps. As

[174] *Id.* at 43 (citing *Transmission Plan. & Cost Allocation by Transmission Owning & Operating Pub. Utils.*, Order No. 1000-A, 77 FR 32184 (May 31, 2012), 139 FERC ¶ 61,132 at P 578). PJM includes an excerpt from Commissioner Christie's concurrence to Order No. 2023, which states, "Commission policy may dictate that interconnection queue efficiency benefits transmission customers; however, that should not result in the costs of a requirement that best benefits interconnection customers, and really prospective interconnection customers that may ultimately not seek to interconnect, being recovered from consumers through transmission rates carte blanche. The Commission simply cannot ask retail consumers to foot the bill for every single "efficiency," especially where many of these "efficiencies" largely benefit generation developers and then get folded into transmission rates and receive an ROE." Order No. 2023, concur op. (Comm'r Christie) at P 22.

[175] PJM Rehearing Request at 43-44 (citing *Motor Vehicle Manufacturers*, 463 U.S. at 57; *Sw. Airlines Co. v. FERC*, 926 F.3d 851, 858 (D.C. Cir. 2019); *Panhandle*, 196 F.3d at 1275).

the Commission explained in Order No. 2023, generating facilities seeking NRIS are generally subject to more stringent study requirements.[176] Therefore, requiring transmission providers to produce heatmap results that approximate NRIS assumptions will provide actionable information on the viability of a given proposed generating facility to both ERIS and NRIS customers. On the other hand, requiring heatmaps to approximate ERIS assumptions would not be helpful to NRIS customers. Even in regions where ERIS may be more commonly selected or lead to a greater number of network upgrades, we find that the use of stricter NRIS assumptions would more consistently alert prospective interconnection customers to the possibility of required network upgrades compared to ERIS assumptions. We therefore find that using NRIS assumptions as a baseline would prevent false negatives, in which the heatmap incorrectly indicates to prospective interconnection customers that their projects would not trigger network upgrades. This finding reasonably balances the resources required of transmission providers in making heatmaps available with the value of providing non-binding system impact information to all prospective interconnection customers ahead of entering the interconnection queue. We note, however, that Order No. 2023 states that "if transmission providers find value in providing additional or different information [than required by Order No. 2023], they may propose such variations on compliance."[177]

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[176] Order No. 2023, 184 FERC ¶ 61,054 at P 148.

[177] *Id.* P 156.

Therefore, if a transmission provider believes that it would be informative to interconnection customers, it may propose on compliance an option for heatmap users to view results using ERIS assumptions in addition to NRIS assumptions. As such, we reiterate that "heatmaps must be calculated under N-1 conditions and studied based on the power flow model of the transmission system with the transfer simulated from each point of interconnection to the whole transmission provider's footprint (to approximate NRIS), and with the incremental capacity at each point of interconnection decremented by the existing and queued generation at that location (based on the existing or requested interconnection service limit of such generation)."[178] For the same reasons noted above, we are unpersuaded by the arguments raised in Clean Energy Associations' alternative request for rehearing.

96. We are also unpersuaded by Non-RTO Providers' argument that the Commission failed to properly evaluate the costs and benefits of the heatmap requirement for non-RTO/ISO regions and that they cannot socialize the costs as broadly as RTOs/ISOs. First, without a comparison to estimated heatmap costs for RTO/ISO regions, Non-RTO Providers' cost estimates do not support its assertion that the cost of developing interactive heatmaps is more burdensome for non-RTO/ISO regions.[179] While RTO/ISO

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[178] *Id.* P 135.

[179] *See, e.g.*, *Ill. Commerce Comm'n v. FERC*, 721 F.3d 764, 775 (7th Cir. 2013) (stating that not all benefits can be calculated in advance, and if FERC cannot quantify the benefits to a particular utility or utilities but "has an articulable and plausible reason to believe that the benefits are at least roughly commensurate with those utilities' total

regions do have larger customer bases from which to recover costs, their heatmaps will also reflect larger and potentially more complex power systems and need to accommodate a larger pool of users and, therefore, may cost more.

97. We further disagree that the labor requirements Non-RTO Providers refer to will be overly burdensome relative to RTO/ISO regions. First, as the Commission clarified in Order No. 2023, transmission providers are not required to update their heatmaps on a rolling 30-day basis, but rather within 30 days of the completion of a cluster study or restudy.[180] Thus, transmission providers will likely update their heatmaps at most two times per year, accounting for one cluster study and one cluster restudy.

98. Second, to Non-RTO Providers' argument that annual heatmap maintenance would divert attention from interconnection engineers who would otherwise be focused on transitioning to cluster studies, we reiterate that transmission providers are not required to make heatmaps available until *after* their transition period, which will help ensure that transmission providers' implementation of this final rule, beginning with the transition period, has begun to reduce backlogged interconnection queues.

99. Third, Non-RTO Providers' cost estimates are based on an extrapolation of one transmission provider's initial estimate, and Non-RTO Providers do not describe any assumptions of this estimate beyond the assertion that, after each cluster study or restudy,

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electricity sales in [the] region," then the Commission can approve the pricing scheme on that basis) (internal citations omitted).

[180] Order No. 2023, 184 FERC ¶ 61,054 at P 141.

it would take two full-time engineers several weeks to "prepare the data" before having a vendor update the heatmap.[181] We are unpersuaded by this assertion because, as Order No. 2023 states, transmission providers must use the results of their most recent cluster study or restudy to update the heatmap.[182] Therefore, to update their heatmaps, little additional analysis should be required beyond what transmission providers have already completed for their cluster studies and restudies. We recognize that engineering labor will likely be required during heatmap website development, either directly, in developing the software and processes, or in consultation with the firm developing the heatmap. However, we believe that it is feasible for transmission providers, or their heatmap developers, to develop their heatmap websites to accept their base case files as inputs for each update such that little to no modification of the base case files and data is necessary. To that point, and Non-RTO Providers' concern that transmission providers have no special expertise in website development, we note that Order No. 2023 does not require transmission providers themselves to develop the requisite software and processes, and they may contract with firms whose expertise includes website development and data management. Further, Order No. 2023 does not preclude transmission providers from proposing on compliance to develop joint, regional heatmaps.

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[181] Non-RTO Providers Rehearing Request at 6.

[182] Order No. 2023, 184 FERC ¶ 61,054 at PP 139-140.

100. Finally, we disagree that Non-RTO Providers' proposal to require that transmission providers post only static data and allow other entities to voluntarily develop heatmaps accomplishes the goals outlined in Order No. 2023. The purpose of the heatmap requirement is, in part, to provide comparable information to all interconnection customers, prior to entering the queue, regardless of the transmission provider. Non-RTO Providers' proposal would not ensure such comparability, but rather would favor interconnection customers that have more resources to devote towards modeling and favor some transmission providers' own proposed generation. Thus, interconnection customers that cannot afford to process the static data Non-RTO Providers propose to post would still need to submit speculative interconnection requests to obtain information. Further, the voluntary funding approach Non-RTO Providers propose would not ensure that non-RTO/ISO regions have public interconnection information available and therefore would discriminate against interconnection customers seeking to interconnect outside of RTO/ISO regions.

101. In response to NV Energy's request for clarification on whether heatmaps must include proposed network upgrades or only existing facilities, we reiterate that heatmaps must be based on the power flow model and base case assumptions used in the most recent cluster study or restudy. Therefore, heatmaps will incorporate in-service network upgrades and network upgrades proposed for clusters higher queued than the most recent cluster study or restudy, as the base case and power flow models for any cluster will include proposed network upgrades for higher queued clusters.

102. We agree with NV Energy and PacifiCorp on the need for clarification regarding when heatmaps must be made available by transmission providers that do not conduct transition processes. We therefore clarify that transmission providers that do not conduct transition periods do not need to make their heatmap available until 360 calendar days after the Commission-approved effective date of the transmission provider's Order No. 2023 compliance filing. This timeline will give transmission providers that do not conduct transition periods the same amount of time as transitioning transmission providers (i.e., completion of the transitional cluster study within 360 days after the Commission-approved effective date of the compliance filing) to develop their heatmaps. Further, while we agree that heatmaps for some transmission providers may initially appear as all red, which indicates no available interconnection capacity, we reiterate our finding that an all red heatmap still "sends a valuable signal to interconnection customers regarding where proposed generating facilities may be more or less economic to interconnect prior to entering the interconnection queue."[183] We are therefore unpersuaded that such a result necessitates delaying the posting of the interactive heatmap.

103. We are also unpersuaded by NV Energy's request for clarification that transmission providers that do not conduct transition processes because they already use cluster studies should be required to post publicly available heatmaps only after three

[183] *Id.* P 157.

cluster cycles, similar to the transition to study delay penalties. This would delay transmission providers already using cluster studies, and their potential interconnection customers, from realizing the benefits of a heatmap (e.g., a reduced volume of speculative interconnection requests) for more than twice as long as those transmission providers who do conduct a transition process and their potential interconnection customers.

104. We are unpersuaded by Public Interest Organizations' assertion that the Commission erred in not requiring transmission providers to include additional data in their heatmaps that would assist interconnection customers in estimating interconnection costs at potential points of interconnection. We further disagree with Public Interest Organizations' contention that the Commission did not fully consider the record on this matter in coming to its decision. On the contrary, as numerous commenters explain – and as the Commission stated in Order No. 2023 – cost estimates produced prior to an interconnection customer entering the queue would be highly uncertain and subject to a high degree of change depending on the actions of other interconnection customers in the queue and study results, and therefore would provide little to no value to interconnection customers in terms of improving cost certainty.[184] We believe this to be true regardless of whether the transmission provider or the interconnection customer produces those cost estimates. Further, Public Interest Organizations do not argue that cost estimates should

[184] *See id.* P 138.

be directly incorporated into transmission providers' heatmaps, but rather that transmission providers should include additional information in their heatmaps that would allow interconnection customers to ascertain information about potential costs at points of interconnection. At the same time, however, Public Interest Organizations argue that many interconnection customers lack the resources to develop cost estimates based on transmission providers' heatmaps. Thus, Public Interest Organizations' proposal would not only increase the burden on transmission providers but require interconnection customers themselves to dedicate more resources towards developing cost estimates that are likely to change once they enter the queue. We therefore continue to find that the heatmap requirements set forth in Order No. 2023 strike a reasonable balance between the burden on transmission providers to develop and maintain heatmaps and the benefit of providing interconnection customers with sufficient information to identify viable points of interconnection, given that cost estimates produced prior to entering the queue would be unreliable. We note, however, that, consistent with the Commission's statements in Order No. 2023, transmission providers may explain specific circumstances on compliance and justify why any deviations are either consistent with or superior to the *pro forma* LGIP or merit an independent entity variation in the context of RTOs/ISOs.[185]

[185] *Id.* P 1764.

105. We are unpersuaded by PJM's request to modify the requirement for transmission providers to update their heatmaps within 30 calendar days of completing a cluster study or restudy. We find PJM's argument regarding its queue scope tool to be inapposite. As the Commission explained in Order No. 2023, because the heatmap should use the results of the most recent cluster study or restudy, the heatmap requirement should require minimal additional analysis beyond the cluster study or restudy and should not necessitate detailed analysis.[186] Transmission providers must simply make the data and assumptions used in the analyses they already completed available in a public, interactive form. Updating heatmaps within 30 calendar days of completion of a cluster study or restudy will also ensure that interconnection customers can use the heatmap during the customer engagement window to determine whether to proceed in the queue or withdraw. Finally, we disagree that interconnection customers' ability to request CEII achieves the same goal as the heatmap requirement. The heatmaps are intended to improve transparency and ease the burden of producing interconnection-related information for prospective interconnection customers. On the other hand, requests for CEII typically require an entity to submit certain identifying information and/or legal documents like non-disclosure agreements and require the transmission provider to review and verify such information, and weigh the need for the information against the potential harm of its release, before potentially granting access to a protected part of its website or OASIS

[186] *Id.* PP 139-140.

portal.[187] Reliance on such a process would impose an unnecessary burden on the prospective interconnection customer, the transmission provider, and other interested stakeholders because, as commenters explain, the information to be published in transmission providers' heatmaps does not raise CEII concerns.[188]

106. Further, we are unpersuaded by PJM's request to modify the finding in Order No. 2023 that transmission providers must bear the costs associated with their heatmaps or recover them through transmission rates to the extent they are recoverable consistent with Commission accounting and ratemaking policy. First, transmission providers already maintain interconnection information and other related information online for the purposes of transparency and facilitating participation amongst various stakeholders. Thus, we disagree with PJM's requested modification because transmission providers may recover the costs associated with heatmaps through transmission rates to the extent they are recoverable consistent with Commission accounting and ratemaking policy. Second, we disagree that interconnection customers are the sole or primary beneficiaries of the heatmap requirement, and that transmission providers themselves do not benefit from it. The heatmap requirement will reduce the number of speculative interconnection requests submitted to transmission providers by providing prospective interconnection customers with information to evaluate the viability of their potential interconnection

[187] PJM's CEII request process, for example, includes all these process components. *See* https://www.pjm.com/library/request-access.

[188] Order No. 2023, 184 FERC ¶ 61,054 at P 144.

requests, thus improving overall queue efficiency for the benefit of both transmission providers and prospective interconnection customers.

2. Cluster Study Process

a. Order No. 2023 Requirements

107. In Order No. 2023, the Commission revised the *pro forma* LGIP and *pro forma* LGIA to require transmission providers to study interconnection requests in clusters.[189] The Commission adopted numerous revisions to the *pro forma* LGIP and *pro forma* LGIA to effectuate this change. Specifically, and as relevant here, the Commission revised the definitions of material modification and stand alone network upgrades, and defined interconnection facilities study report.[190] The Commission adopted section 3.1.2 (Submission) of the *pro forma* LGIP to require an interconnection customer to select a definitive point of interconnection when executing the cluster study agreement.[191] The Commission adopted section 3.4.1 (Cluster Request Window), section 3.4.4 (Deficiencies in Interconnection Request), and section 3.4.5 (Customer Engagement Window) of the *pro forma* LGIP to provide a process for interconnection customers to submit a cluster study interconnection request.[192] The Commission adopted section 3.4.6 (Cluster Study

[189] *Id.* P 177.

[190] *Id.* P 192.

[191] *Id.* P 200.

[192] *Id.* P 223.

Scoping Meetings) of the *pro forma* LGIP to require transmission providers to hold a scoping meeting with interconnection customers in the cluster.[193] The Commission revised section 3.5.2 (Requirement to Post Interconnection Study Metrics) of the *pro forma* LGIP to require transmission providers to post metrics for cluster study and restudy processing time.[194]

108. The Commission adopted several revisions to the *pro forma* LGIP related to the process by which interconnection customers can make an interconnection request. The Commission revised section 4.1 (Queue Position) of the *pro forma* LGIP to provide that all interconnection requests within a cluster be considered equally queued and accordingly modified the definition of queue position.[195] The Commission renamed and revised section 4.2 (General Study Process) of the *pro forma* LGIP to require transmission providers to perform interconnection studies within the cluster study process.[196] The Commission revised section 4.4 (Modifications) of the *pro forma* LGIP to provide that moving a point of interconnection shall result in the loss of a queue position if it is deemed a material modification by the transmission provider.[197] The

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[193] *Id.* P 245.

[194] *Id.* P 259.

[195] *Id.* PP 277, 283.

[196] *Id.* P 278.

[197] *Id.* P 283.

Commission also revised section 4.4.1 of the *pro forma* LGIP to incorporate the material modification process as part of the cluster study process.[198] The Commission revised section 4.4.5 of the *pro forma* LGIP to require that interconnection customers receive an extension of fewer than three cumulative years of the generating facility's commercial operation date without requiring them to request such an extension from the transmission provider.[199]

109. The Commission adopted revisions to the *pro forma* LGIP to implement several cluster study provisions. The Commission replaced section 6 (Interconnection Feasibility Study) of the *pro forma* LGIP with the new public interconnection information requirements as discussed in section II.C.1 of Order No. 2023.[200] The Commission revised section 7 (Cluster Study) of the *pro forma* LGIP to set out the requirements and scope of the cluster study agreement, as well as the cluster study and restudy procedures.[201] The Commission revised section 7.4 (Cluster Study Procedures) of the *pro forma* LGIP to permit transmission providers to use subgroups in their cluster study process if they so choose.[202] The Commission revised section 8.5 (Restudy) of the *pro*

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[198] *Id.* P 285.

[199] *Id.* P 293.

[200] *Id.* P 316.

[201] *Id.* P 317.

[202] *Id.* P 363.

forma LGIP to make clear that restudies can be triggered by the withdrawal or modification by a higher- or equally-queued interconnection requests.[203] The Commission revised sections 11.1 (Tender) and 11.3 (Execution and Filing) of the *pro forma* LGIP regarding the tendering, execution, and filing of the LGIA to incorporate the site control demonstrations and LGIA deposit requirements of Order No. 2023.[204]

b. Requests for Rehearing and Clarification

110. Clean Energy Associations contend that the Commission acted arbitrarily and capriciously and failed to engage in reasoned decision-making by changing the definition of stand alone network upgrades such that only "single customers" are eligible to build them.[205] Clean Energy Associations claim that, when considered with the shift to a cluster study process and other stated goals for the sharing of network upgrade costs amongst interconnection customers, the revised definition effectively forecloses the opportunity for any future interconnection customer to exercise their discretion to build stand alone network upgrades or identified transmission provider interconnection facilities. Additionally, Clean Energy Associations aver that the revisions ignore the relationship of the option to build to the project sponsor, nearly eliminating the benefits

[203] *Id.* P 335.

[204] *Id.* P 344.

[205] Clean Energy Associations Rehearing Request at 8-9.

of the option to build, such as controlling project schedules.[206] Finally, Clean Energy Associations assert that the Commission's reasoning is based on a hypothetical situation which has not occurred since Order No. 845, or possibly ever.

111. Clean Energy Associations argue that the Commission's assertion that "confusion and potentially lengthy negotiations and/or disputes" would result without revisions to the definition of stand alone network upgrades is unsupported by the record of this proceeding.[207] Clean Energy Associations note that transmission providers already using cluster studies have operated for years under the Order No. 845 definition, demonstrating that the revisions were not necessary. Clean Energy Associations explain that Order No. 2023 neither cites previous instances of confusion or lengthy disputes regarding the construction of stand alone network upgrades, nor any other facts or evidence that would support a finding that the current definition is insufficient or inadequate. Clean Energy Associations also note that one transmission provider using cluster studies supported the concept of allowing stand alone network upgrades to be shared among interconnection customers.[208]

112. Clean Energy Associations contend that this aspect of Order No. 2023 is arbitrary and capricious because the Commission fails to acknowledge or adequately explain

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[206] *Id.* at 9-10.

[207] *Id.* at 10 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 193).

[208] *Id.* at 11-12 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 185).

departures from its precedent.[209] Clean Energy Associations note that Order No. 845 explains that the option to build benefits the interconnection process by giving interconnection customers more control and certainty, and that interconnection customers are in the best position to determine if the option to build in their interest. However, Clean Energy Associations assert that the revised definition removes interconnection customers' ability to exercise their discretion regarding the option to build for the majority of network upgrades identified in a cluster study, and modifies th*e status quo* by reducing the number of network upgrades that would qualify as stand alone network upgrades because the proportional impact method of cost allocation will reduce the likelihood of finding a single customer 100% responsible for a network upgrade.[210] Clean Energy Associations contend that this renders the Order No. 845 policy moot and is inconsistent with the Commission's intent in Order No. 2023 to maintain the status quo.

113. Clean Energy Associations state that the Commission can redress this error on rehearing by (1) reversing its decision to revise the definition of stand alone network upgrade, and (2) requiring transmission providers to address, in their compliance filings and OATTs, the process through which interconnection customers with shared network upgrades that qualify as stand alone network upgrades can exercise their option to

[209] *Id.* at 12-13.

[210] *Id.* at 13-14.

build.[211] Alternatively, Clean Energy Associations suggest that the Commission require transmission providers to allow the interconnection customers amongst whom a stand alone network upgrade was shared to unanimously exercise the option to build and, then, to either select a third party to construct the upgrade or to determine responsibility for doing so amongst themselves. Clean Energy Associations assert that this would prevent the concern of disputes among interconnection customers within a cluster. Clean Energy Associations state that both of these options would be consistent with, and would preserve, the policy set forth in Order No. 845, while also addressing the Commission's concerns that disputes or confusion may arise and further delay the interconnection process, while striking an appropriate balance between the Commission's policy and efforts in Order No. 845 and Order No. 2023, honoring both efforts and further enhancing and benefiting the interconnection process.

114. Clean Energy Associations state that the Commission erred in finding that modifications to project size can only be made during the customer engagement window and that interconnection customers must select a single, definitive point of interconnection at that time.[212] Clean Energy Associations assert that the record does not support the conclusion that the customer engagement window is sufficient for the interconnection customer to enter the cluster study with confidence in its project size and

[211] *Id.* at 14-15.

[212] *Id.* at 15-16.

definitive point of interconnection and, thus, this timeline does not reflect an appropriate balance that will reduce the need for restudies and delays. Clean Energy Associations assert the opposite—that the record indicates that failure to provide flexibility to interconnection customers to modify project size and point of interconnection after receipt of initial cluster study results will increase the likelihood of withdrawals and cascading restudies by not allowing interconnection customers to make beneficial adjustments earlier in the interconnection process that could be determinative in a project's decision to stay in the cluster or withdraw. Clean Energy Associations disagree with the Commission's conclusion that the extended 60 calendar day customer engagement window is sufficient to provide interconnection customers with "time to consider information collected during this period of engagement with the transmission provider,"[213] which will allow customers to determine when to withdraw their interconnection requests and avoid penalties while improving queue efficiency due to fewer late-stage cluster study withdrawals. Clean Energy Associations assert that, prior to the cluster study, it is difficult for an interconnection customer to make any informed conclusion about expected costs of potential network upgrades and such costs' impact on project viability, which the interconnection customer must learn from the cluster study.

115. The 60-day customer engagement window, Clean Energy Associations assert, only provides interconnection customers 46 calendar days to evaluate publicly posted

[213] *Id.* at 17-18 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 233).

information and make any potential project modifications prior to entering the cluster study, and any such early-acquired information will be incomplete, lacking modeling data, new model sets, and other study assumptions such as confidential merit order dispatch lists used by transmission providers to set up power transfers from new generators, despite publicly posted information by transmission providers.[214] Clean Energy Associations state that substantial information gained through the study process may necessitate a change in point of interconnection, making choosing a single point of interconnection implausible. They claim that not requiring transmission owners to attend scoping meetings further limits an interconnection customer's access to information. Clean Energy Associations assert that an interconnection customer will not have sufficient time and information to evaluate project viability during the customer engagement window or modify project size and location in response to pre-study information obtained during that window.

116. Clean Energy Associations assert that limiting post-initial cluster study entry modifications to the interconnection request to those the transmission provider deems not to be material ignores record evidence that this practice will not result in a more reliable, efficient, transparent, and timely interconnection process.[215] Clean Energy Associations assert that allowing flexibility in project size reductions through the initial cluster study

[214] *Id.* at 18-19.

[215] *Id.* at 19-20.

will allow for optimization of projects based on official study results, resulting in fewer withdrawals due to increased project viability and contribution to reliability through reduced impacts to the transmission provider's system, which it asserts will be less disruptive to the interconnection process than a full withdrawal. Clean Energy Associations state that, likewise, inability to change the point of interconnection or to submit an alternate point of interconnection could cause delays and can trigger the restudy of an entire cluster. Clean Energy Associations assert that the record demonstrates that interconnection customers lack sufficient time or information to optimize project characteristics prior to entering the initial cluster study, and that flexibility to make beneficial modifications after receipt of initial study results would reduce rather than increase uncertainty, restudy, and administrative burden.

117. Clean Energy Associations further state that the option to instead pursue a material modification exemption does not provide sufficient flexibility because: (1) it leaves this determination to the discretion of the transmission provider; and (2) it ignores that minor project modifications that could have slight impacts on other interconnection customers in the same cluster might nonetheless be far less disruptive than project withdrawal.[216] Clean Energy Associations argue that the material modification review is often based on "opaque assumptions" available only to the transmission provider and may divert resources at a relatively more intense part of the study process.

[216] *Id.* at 21-22.

118. Clean Energy Associations note that SPP, PJM, and MISO have adopted provisions allowing 50%-100% reduction allowance and minor point of interconnection changes, and also permit smaller size adjustments similar to that found in *pro forma* LGIP section 4.4.2 through the initial cluster restudy, which Clean Energy Associations state belie the Commission's assertion that the timing for modifications in Order No. 2023 reflects a natural translation of the timing for modification in the existing serial study process to a cluster study process.[217] Clean Energy Associations therefore request that the Commission grant rehearing and modify the language in revised *pro forma* LGIP section 4.4.1 to allow modifications to project size (specifically, up to a 60% size reduction) prior to entering the cluster restudy, and to allow minor modifications to project size (specifically, up to a 15% size reduction) after the receipt of a cluster restudy but prior to the start of the facilities study. Clean Energy Associations further request that the Commission grant rehearing and allow interconnection customers the option to present a primary and alternative definitive point of interconnection in an electrically proximate area, provided that the transmission provider and transmission owner verify the alternative as acceptable during the customer engagement window and prior to the scoping meeting.

119. IPP Coalition also asks the Commission to reconsider its requirement that customers identify a single point of interconnection and, instead, allow for an electrically

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[217] *Id.* at 22.

proximate alternative point of interconnection that is verified as acceptable by the transmission provider during the cluster study customer engagement window and listed in the cluster study agreement.[218] IPP Coalition asserts that electrically proximate point of interconnection locations can be effectively implemented within a study process without materially impacting a study process, and that this general standard should be applied consistently to a potential change, whether it is sought by an interconnection customer as part of the interconnection request or ultimately required on the basis of a public policy decision.

120. Ørsted requests that the Commission clarify that, in circumstances where state or federal agency policy or regulation requires a change to the point of interconnection, projects should be restudied based upon the new regulatory or statutory requirements.[219] Alternatively, Ørsted requests that the Commission clarify that, in such circumstances, the transmission provider, the state, or the interconnection customer may request a waiver of applicable tariff and LGIA/LGIP provisions that might be affected in order to comply with the federal or state regulatory requirement.

121. Clean Energy Associations state that the Commission should grant rehearing and amend Order No. 2023 to stipulate that, if an interconnection customer submits an interconnection request at least 15 business days prior to the close of the cluster request

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[218] IPP Coalition Rehearing Request at 7-8.

[219] Ørsted Rehearing Request at 11.

window, and if failure by the transmission provider to issue a deficiency notice within five business days of receipt results in the interconnection customer having fewer than 10 business days to respond to the deficiency notice prior to the close of the customer request window, the interconnection customer shall still be granted a full 10 business days to respond prior to facing the consequences outlined in revised *pro forma* LGIP section 3.4.4.[220] Clean Energy Associations state that, to ensure a full 10 business days to respond, an interconnection customer would have to submit its interconnection request more than 15 business days before the close of the cluster request window to account for the five business day window for the transmission provider to issue a deficiency notice, and that even if an interconnection customer submitted its interconnection request more than 15 business days before the close of the cluster window, the interconnection customer may be left with fewer than 10 business days to provide a response in the event that the transmission provider failed to meet the five business day notification requirement. Clean Energy Associations state that, because of this oversight, an interconnection customer may, through no fault of its own, have as little as one day to respond to a deficiency notice. Clean Energy Associations argue that revised *pro forma* LGIP section 3.4.4 includes significant consequences for interconnection customers that fail to meet the 10 business-day deadline, but no consequences for transmission providers that fail to meet the five-business day deficiency notice deadline. Clean Energy

[220] Clean Energy Associations Rehearing Request at 25-26.

Associations argue that the Commission acted arbitrarily and capriciously and failed to engage in reasoned decision-making by failing to account for potential delay on the part of the transmission provider.

122. Clean Energy Associations and Ørsted argue that the Commission acted arbitrarily and capriciously and failed to engage in reasoned decision-making when it declined to require transmission owners to attend scoping meetings.[221] Clean Energy Associations and Ørsted state that requiring transmission owners to attend may help RTOs/ISOs address potential challenges sooner, avoiding penalties caused by transmission owner delays. Clean Energy Associations and Ørsted assert that the purpose of the customer engagement window is to provide interconnection customers with information to help them determine the viability of their proposed generating facilities earlier in the process, and without transmission owners in these meetings, interconnection customers are deprived of critical information necessary to determine the costs and commercial viability of their projects.[222] Ørsted additionally states that transmission owners are fully responsible for design of network upgrades, including both substation and system network upgrades, as well as play an important role in informing point of interconnection decisions by providing information about the existing grid conditions and capabilities as

[221] *Id.* at 26; Ørsted Rehearing Request at 3.

[222] Clean Energy Associations Rehearing Request at 27-28; Ørsted Rehearing Request at 3-4.

well as information related to interconnection requirements.[223] Ørsted therefore argues that the transmission owner is in the best position to give interconnection customers a sense of the work required to expand the transmission facilities to accommodate new interconnection customers, and that a failure to include transmission owners in these meetings deprives interconnection customers of critical information necessary to determine the costs and commercial viability of their projects. Ørsted asserts that not requiring transmission owners to attend the scoping meeting creates an additional burden on both the interconnection customer and the transmission owner because customer will need to schedule separate meetings with the transmission owners to get additional information.

123. EEI, NYISO, and NYTOs seek rehearing of Order No. 2023's elimination of the feasibility study.[224] EEI argues that carrying out physical feasibility studies, which determine whether the project is "physically constructable" to the point of interconnection, early in the interconnection process will allow for the early disqualification of infeasible interconnection requests, which will save resources.[225] NYTOs contend that analyzing feasibility is especially needed in highly congested areas

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[223] Ørsted Rehearing Request at 4-5.

[224] EEI Rehearing Request at 13-14; NYISO Rehearing Request at 11; NYTOs Rehearing Request at 6; *see also* WIRES Rehearing Request at 12 (asking the Commission to clarify that feasibility studies can continue to be performed under the "Independent Entity Regional Variation Standard").

[225] EEI Rehearing Request at 13-14.

like New York City and Long Island, where geographic and environmental limitations often restrict the ability to interconnect new generation at certain locations, which cannot be reflected in a heatmap.[226] NYISO and NYTOs note that, because physical feasibility issues are particularly important in New York, NYISO needs to address early in the interconnection study process which proposed projects will be eligible to make use of those limited points of interconnection.[227] NYISO and NYTOs assert that the Commission's determination to eliminate the feasibility study and replace it with a heatmap to provide project developers with a rough indication of interconnection capacity before they submit their interconnection requests will not address critical physical feasibility issues.

124. EEI asks the Commission to clarify that provisional interconnection service requests will continue to be processed as received and outside the cluster study process.[228] EEI states that the Commission may have inadvertently failed to include provisional service in its response to PacifiCorp's comments regarding processing interconnection requests (including provisional service requests) in Order No. 2023.

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[226] NYTOs Rehearing Request at 8.

[227] *Id.* at 7; NYISO Rehearing Request at 11.

[228] EEI Rehearing Request at 14-15.

125. EEI requests that the Commission clarify how the 150-day study deadline applies to cascading restudies.[229] EEI states that a withdrawal has the potential to trigger the restudy of every subsequent cluster, which will have to be conducted in turn. EEI specifically asks the Commission to clarify that transmission providers have 150 days to complete the restudy from the initiation of the restudy, rather than from when the interconnection customers are informed that the restudy is needed. EEI argues that this clarification is necessary so that transmission providers have the full 150-day period for each restudy.

126. MISO asks the Commission to clarify that Order No. 2023's statements that decline to allow transmission providers the flexibility to set their own study deadlines were intended to respond to requests to allow transmission providers to establish deadlines for specific study clusters other than through deadlines fixed in their tariffs, and were not intended to preempt transmission providers from proposing to maintain existing tariff-defined study deadlines that may differ from the *pro forma* LGIP's 150 day schedule.[230] MISO explains that it uses a three-phase process that has a different length than the one phase process in the *pro forma*, and MISO's tariff includes fixed study deadlines for each phase that are not subject to discretionary adjustment.

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[229] *Id.* at 15-16.

[230] MISO Rehearing Request at 26.

127. NYISO asserts that the one-size-fits-all, 150-calendar day cluster study timeframe is arbitrary and capricious, does not reflect reasoned decision-making, and is not based on substantial evidence.[231] NYISO states that the timeframes for the cluster restudy and facilities studies are also arbitrary and capricious and deficient. NYISO asserts that the Commission did not establish a basis for the 150-day timeframe, but rather stated that the timeframe for performing the stability analyses, power flow analyses, and short circuit analyses was based on the record without providing detail as to what in the record supports that conclusion. NYISO also claims the Commission cites to a limited number of parties, none of which it claims performs such studies, in support of the 150-day timeframe.

128. NYISO contends that the Commission has not considered the impact to the study timeline of any evaluations required to address applicable reliability requirements.[232] NYISO explains that in New York, for example, the system impact study encompasses numerous steps critical to evaluating reliability impacts of proposed generating facilities, which must be performed to fully evaluate a proposed interconnection under all Applicable Reliability Requirements. NYISO notes that in New York, Applicable Reliability Requirements include Northeast Power Coordinating Council rules and New York State Reliability Council rules, which are often more stringent than NERC rules

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[231] NYISO Rehearing Request at 4-5.

[232] *Id.* at 6-7.

because of New York's unique transmission system complexities, including congestion around New York City and Long Island, and an influx of offshore wind generation.

129. NYISO contends that the Commission has also failed to consider how the size or complexity of the cluster could affect the study timeframe.[233] NYISO explains that the system impact study timeframe is driven by the study scope (e.g., whether the study addresses physical feasibility), the number of impacted parties, the complexity of the project, and unique challenges at the project's point of interconnection. NYISO further explains that, for a system impact study to effectively evaluate a proposed interconnection, the transmission provider requires accurate modeling data from an interconnection customer, study cases built for the proposed project, and precise thermal, voltage, steady state, and short circuit analyses. NYISO explains that accomplishing this requires a potential several-month collaboration with transmission owners to: (1) build applicable study base cases and the associated auxiliary study files; (2) complete any short circuit base cases necessary to determine point of interconnection requirements; (3) build pre-and post-project steady-state base cases that represent various system conditions (e.g., summer peak load, winter peak load, and spring light load conditions).[234] NYISO further explains that it: (1) collaborates with applicable transmission owners and/or interconnection customers to determine upgrade solutions that constitute the least

[233] *Id.* at 8.

[234] *Id.* at 9-10.

cost solution to mitigate reliability violations consistent with good utility practice and all applicable reliability requirements; (2) must sometimes iteratively redo the reliability analyses to ensure network upgrades can be reliably interconnected; and (3) must conduct stability analysis, transfer analysis, deliverability analysis, short circuit analysis, NPCC/NYSRC bulk power system transmission facility testing analysis, sub-synchronous torsional interaction screening analysis, and additional analyses. NYISO states that the study results must be summarized and shared with impacted parties and stakeholders and reviewed by the appropriate NYISO committees and subcommittees. NYISO avers that, if it had to comply with the 150-day timeline, it may likely be forced to eliminate this review and approval process.[235]

130. Additionally, NYISO asserts that cluster studies are unlikely to create the time savings expected by the Commission.[236] NYISO disagrees with the Commission's statement that the transmission provider "will be conducting only one interconnection study, or at most a small number of interconnection studies, at a time, allowing them to devote more resources to completing the studies in a timely manner" because, NYISO argues, this statement does not accurately reflect the type and amount of work required for the cluster study that it proposes and the resources that will need to be committed to

[235] *Id.* at 11.

[236] *Id.* at 12.

such study.[237] NYISO explains that a large portion of cluster study work is spent identifying network upgrades at or near points of interconnection for individual projects or subsets of projects within the cluster which, as NYISO asserts, effectively requires transmission providers to perform individual studies within the broader cluster study and requiring resources similar to that of a serial study.[238] NYISO contends that only a small portion of cluster study work involves assessing the impacts on the system of the cluster as a whole. NYISO adds that each additional project in the cluster adds to the total amount of work required because each project must be modeled.

131. Further, NYISO argues that efficiencies gained by transitioning to a cluster study may be offset by increased participation and resultant large clusters.[239] NYISO contends that the more stringent study deposit, commercial readiness, and site control rules adopted in Order No. 2023 will not materially reduce the number of projects entering interconnection queues. NYISO notes that it and other RTOs/ISOs haves adopted similar rules without seeing a corresponding decrease in projects entering and progressing through their queues.[240] NYISO states that, if the Commission does establish a firm

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[237] *Id.* (citing Order No. 2023, 184 FERC ¶ 61,054 at P 326).

[238] *Id.* at 13.

[239] *Id.* at 14.

[240] *Id.* (citing, for example, Midcontinent Independent System Operator Presentation, Generator Interconnection Queue Improvements, Planning Advisory Committee (July 19, 2023) (proposing increasing initial milestone payment from $4000/MW to $10,000/MW), at:

deadline for cluster study completion, it should define a maximum number of projects in a cluster or allow for extending the 150-day timeframe according to cluster size.

132. NYISO requests that the Commission allow RTOs/ISOs to propose alternative study deadlines as independent entity variations.[241] NYISO argues that requiring a single, firm study timeframe for all transmission providers does not recognize that interconnection study process requirements, challenges, reliability criteria, and queue size will be different in each region. In the alternative, NYISO requests that the Commission grant clarification that Order No. 2023 was not intended to prevent RTOs/ISOs from proposing region-specific study deadlines for some or all future studies in their individual Order No. 2023 compliance filings.

133. NYISO also asks the Commission to confirm that, during the 45-day cluster request window, the interconnection customer is limited to one 10-business day opportunity (or shorter at the end of the request window) to cure a deficiency in its application.[242] Further, NYISO asks the Commission to confirm that it did not intend to require the transmission provider to issue a second deficiency notice even if time allowed for such notice in the cluster request window and that, if the interconnection customer fails to fully cure its application within its single cure period, its application will be

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https://cdn.misoenergy.org/20230719%20PAC%20Item%2006%20GI%20Queue%20Improvements%20Propos al629634.pdf).

[241] *Id.* at 15-16.

[242] *Id.* at 44-45.

withdrawn. NYISO notes that section 3.4.4 of the *pro forma* LGIP provides that: "At any time, if Transmission Provider finds that the technical data provided by Interconnection Customer is incomplete or contains errors, Interconnection Customer and Transmission Provider shall work expeditiously and in good faith to remedy such issues." NYISO argues that the Commission should clarify that this language is not intended to extend the time period by which an interconnection customer must address deficiencies for the transmission provider's acceptance of a valid, complete interconnection request, but instead is simply intended to permit the transmission provider and interconnection customer to address any minor issues that may be discovered later in the interconnection process, subject to applicable deadlines. NYISO proposes revisions to section 3.4.4 of the *pro forma* LGIP which it states would accomplish this clarification.

134. NYISO asks the Commission to confirm that the transmission provider may complete its determination that an interconnection request is valid into the customer engagement window, including assessing any updated information provided by the interconnection customer, within its permitted deficiency cure period in the cluster request window.[243] NYISO also requests confirmation that the transmission provider is not required to permit interconnection customers to address any further deficiencies identified in the customer engagement window. Further, NYISO states the Commission should confirm that, if the transmission provider determines in the customer engagement

[243] *Id.* at 45.

window that an interconnection customer's updated interconnection request remains deficient and is not valid, the transmission provider may withdraw the project upon such determination. In particular, NYISO notes that Paragraph 234 of Order No. 2023 appears to reject withdrawals for interconnection requests that are not deemed valid until the close of the customer engagement window. NYISO argues that this statement is inconsistent with the Commission's requirements to not permit interconnection customers to cure deficiencies during the customer engagement window and to limit participation in the Scoping Meeting during that window to only customers "whose valid Interconnection Requests were received in the Cluster Request Window."[244]

135. NYISO requests rehearing of the requirement that transmission providers post an anonymized list of the projects eligible to participate in the cluster study during the customer engagement window.[245] NYISO argues that the requirement creates another administrative burden on the transmission provider for which the Commission has not provided a reasonable basis and could result in the unequal public disclosure of certain information to only a subset of developers. NYISO asserts that the Commission has not provided support for this anonymity requirement, aside from a general assertion that such requirement is appropriate "to reduce opportunities for developers to gain competitive advantage over others before interconnection requests have been finalized and accepted

[244] *Id.* (citing *pro forma* LGIP section 3.4.5).

[245] *Id.*

by the transmission provider."[246] NYISO further states that the Commission has not provided a description of any means by which publicly identifying the developers of projects with valid interconnection requests would provide the developer or other parties with a competitive advantage. NYISO also explains that its OATT requires transmission providers to publicly post queue information that includes certain identifying information about valid interconnection requests. NYISO argues that the proposed requirement would therefore require a further administrative step for NYISO to have to conceal certain information in its publicly posted queue, including the developer's name and/or the status of the project, as well as take additional steps to maintain the projects' anonymity, such as masking information in any other public communications.[247] Further, NYISO notes that the group scoping meeting required during the customer engagement window will reveal many of the cluster participants, and that even if developer names are not provided during the meeting, many developers in a region are aware of the employees of other developers in that region. Therefore, NYISO argues that anonymity of developer names will not mask the identity of the underlying developers from other cluster participants but would simply give them an information advantage over other developers. Finally, NYISO explains that in many cases, such information would be public anyway, such as through a developer posting its projects on its website or participating in public

[246] *Id.* at 46 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 237).

[247] *Id.* at 46-47.

request for proposals, permitting processes, Commission submissions, or other federal, state, or local proceedings.

136. NewSun argues that the 30-day timeline permitted following receipt of the cluster study report for interconnection customers to execute the facilities study agreement and provide deposits is arbitrary and capricious because it is commercially unreasonable, counterproductive to the Commission's goals of reducing withdrawals and restudies, fails to address record evidence, and inconsistent with the rationale provided in Order No. 2023.[248] NewSun argues that the 30-day timeline does not leave time for the proper review and discussion of the study information, especially where third party information is involved, or where the interconnection customer's understanding of the information (even assuming the study was without errors) is contingent upon study results meetings. NewSun explains that it takes time to, for example, read the report, formulate questions, set up meetings with consultants, run financial models, and engage with outside bankers and financiers.[249] NewSun asserts that companies with "near infinite resources can just play chicken with their balance sheets, many of whom can merely post a letter of credit (by paying points) to proceed, and/or make the strategic decision to hold their noses and stay in, hope it works out, and just treat withdrawal penalties as a cost of doing business," while companies like NewSun have to arrange cash-backed letter of credit facilities

[248] NewSun Rehearing Request at 7-8.

[249] *Id.* at 8-9.

which takes longer than 30 days to arrange.[250] NewSun states that forcing all interconnection customers, big and small, to make such huge decisions in short windows creates biases towards "nose-holding behavior, fearful exits, and inability to thoughtfully consider outcomes—or changes—much less to collaborate and/or adapt to avoid delay-causing or costly upgrades.[251]

137. NewSun requests rehearing of the requirement that, if any interconnection customer withdraws from the cluster after receiving the cluster study report and the transmission provider concludes that such withdrawal triggers a restudy, the transmission provider has 30 days from the cluster study report meeting (or cluster restudy report meeting, if applicable) to notify affected interconnection customers.[252] NewSun states that notice of restudy will occur up to 10 days after the interconnection customer is required to sign a facilities study agreement and make the associated deposit 10% of the estimated network upgrade costs. NewSun states that, because the time frames for notice of restudy and for execution of the facilities study agreement overlap, the interconnection customer almost certainly will not know if a restudy – which entails potentially significant additional delays and increases in interconnection costs – is required before it is required to commit to a facilities study and making deposits that in many cases will

[250] *Id.* at 9.

[251] *Id.* at 10.

[252] *Id.* at 13 (citing *pro forma* LGIP section 7.5(3)-(4)).

requiring financing of millions or even tens of millions of dollars in financial security. NewSun asserts that, even if the transmission provider somehow manages to give the interconnection customers notice of intent to conduct a cluster restudy and tolls the due date for the facilities study agreement and 10% network upgrade deposit within 30 days of furnishing the cluster study report, the interconnection customer will have only 20 days to increase the amount on deposit to 5% of its estimated network upgrade costs. NewSun notes that this decision point could require financing of millions of dollars and, even in cases where monies may have already been financed, if refunds are not received, they cannot be recycled or reused. NewSun seeks rehearing of these timing issues and requests that the Commission change the 30-calendar day timeline to 60 days, as well as make several other changes to multiple timelines in Order No. 2023.[253]

138. PJM argues that the Commission erred in its apparent requirement that transmission providers determine whether a change in a project's point of interconnection is a material modification.[254] PJM explains that it interprets Order No. 2023 to mean that transmission providers will need to evaluate every single request from interconnection customers for a change to their point of interconnection to determine whether it is a material modification. PJM asserts, however, that analyzing each request would consume already limited engineering time, and that most change requests come from developers

[253] *Id.* at 22-24.

[254] PJM Rehearing Request at 44-45.

seeking to optimize their projects mid-process instead of performing their due diligence in advance of entering the queue. PJM also implies that most changes to points of interconnection would result in a material modification. PJM asks the Commission to clarify that transmission providers need not evaluate every single request to change a point of interconnection to determine if it would be a material modification. PJM recommends instead that the Commission allow transmission providers to establish rules that (1) changes to a project's point of interconnection may be made at certain defined points in the cluster cycle, and (2) changes to points of interconnection outside those defined times would be presumed material modifications. PJM seeks rehearing on this issue if the Commission declines to provide its requested clarification.

139. NYTOs seek clarification of Order No. 2023's elimination of queue priority and finding that all interconnection requests in a cluster should hold equal priority.[255] NYTOs explain that there is at least one instance in which interconnection priority is necessary: if it is not physically possible to connect all interconnection requests at a single point of interconnection, but it is feasible to connect some of the requests, then prioritization based on request dates should be applied to determine which interconnection customers have priority to proceed. NYTOs explain that this scenario occurs when the number of interconnection requests exceeds the available points of interconnection at a substation, and the substation cannot be expanded due to physical

[255] NYTOs Rehearing Request at 9-10.

space or environmental limitations. NYTOs explain that allowing for this prioritization is critical in highly congested areas like New York City and Long Island. NYTOs state that the Commission should clarify that providing interconnection queue priority in this situation is permissible, at least under the independent entity variation. If the clarification is not provided, NYTOs request rehearing on the grounds that in the absence of such priority, the Commission acted arbitrarily and capriciously by failing to consider all aspects of the problem.

140. Several commenters request rehearing regarding reforms the Commission did not adopt in Order No. 2023. AEP argues that the Commission failed to adequately consider the need for, benefits of, and record support for enhanced generation retirement replacement processes and erred in deeming the generation retirement replacement process beyond the scope of this proceeding.[256] AEP states that four parties commented on the importance of generator replacement programs and argues that, while the Commission may not be able to direct with specificity the generator replacement reforms required, it has sufficient evidence to provide guidance on the basic requirements for such programs.[257] MISO asks the Commission to clarify that Order No. 2023 does not require transmission providers with Commission-approved generator replacement processes to

[256] AEP Rehearing Request at 6.

[257] *Id.* at 24.

change, abandon, or re-justify these processes on compliance.[258] Alternatively, if the Commission did intend to require transmission providers with existing generator replacement processes to re-justify those processes, MISO requests rehearing.[259] AEP urges the Commission to include in the *pro forma* LGIP an option for transmission providers to process some interconnection requests outside the cluster study process where required for LSEs to meet reserve margin requirements.[260] AEP argues that, if not included in the *pro forma* LGIP, AEP asks the Commission, in the alternative, to remain open to the future consideration of tariff revisions that allow for such outside-the-cluster reviews or fast-track processing.[261]

c. Determination

141. We agree with Clean Energy Associations that revisions to the definition of stand alone network upgrades in the *pro forma* LGIP and *pro forma* LGIA and option to build section of the *pro forma* LGIA are necessary to maintain the pre-Order No. 2023 *status quo* opportunity for interconnection customers to exercise the option to build as part of the cluster study process. Accordingly, we set aside this aspect of Order No. 2023 and

[258] MISO Rehearing Request at 21-22.

[259] *Id.* at 23.

[260] AEP Rehearing Request at 24-25.

[261] *Id.* at 25-26.

modify the definition of stand alone network upgrades in section 1 (Definitions) of the *pro forma* LGIP and *pro forma* LGIA as follows, with brackets indicating deletions:

> **Stand Alone Network Upgrades** shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction [and the following conditions are met: (1) a Substation Network Upgrade must only be required for a single Interconnection Customer in the Cluster and no other Interconnection Customer in that Cluster is required to interconnect to the same Substation Network Upgrades, and (2) a System Network Upgrade must only be required for a single Interconnection Customer in the Cluster, as indicated under the Transmission Provider's Proportional Impact Method]. Both Transmission Provider and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, Transmission Provider must provide Interconnection Customer a written technical explanation outlining why Transmission Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

142. Accordingly, we also modify article 5.1.3 (Option to Build) of the *pro forma* LGIA as follows, with italicized language indicating additions:

> *Individual or Multiple* Interconnection Customer*s* shall have the option to assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2, *if the requirements of this Article 5.1.3 are met. When multiple Interconnection Customers exercise this option, multiple Interconnection Customers may agree to exercise this option provided (1) all Transmission Provider's Interconnection Facilities and Stand Alone*

> *Network upgrades constructed under this option are only required for Interconnection Customers in a single Cluster and (2) all impacted Interconnection Customers execute and provide to Transmission Provider an agreement regarding responsibilities, and payment for, the construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades planned to be built under this option.* Transmission Provider and *the individual Interconnection Customer or each of the multiple* Interconnection Customers must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

143. We find that this revision to the definition of stand alone network upgrades and addition to the option to build section in the *pro forma* LGIA will allow interconnection customers to exercise the option to build whether the stand alone network upgrade is attributable to a single interconnection customer or a shared network upgrade shared by multiple interconnection customers. These revisions will also avoid potentially lengthy disputes between interconnection customers, which was the Commission's original concern in Order No. 2023, because, for interconnection customers with shared network upgrades that qualify as stand alone network upgrades, interconnection customers must mutually agree to such agreement outside the transmission provider's interconnection process and thus will not slow down that process.[262] We clarify that, for such circumstances, we expect such a written agreement among the relevant interconnection customers to be reached among the interconnection customers on their own and outside

[262] Order No. 2023, 184 FERC ¶ 61,054 at P 193.

of the transmission provider's interconnection process. Further, we clarify that, if no mutual agreement is reached among the interconnection customers, no interconnection customer will have the ability to exercise the option to build a stand alone network upgrade that is a shared network upgrade.

144. We are unpersuaded by Clean Energy Associations' argument that the Commission should modify the allowed reductions in project size in *pro forma* LGIP sections 4.4.1 and 4.4.2. We find that implementing Clean Energy Associations' requested change under a cluster study process is likely to lead to delays in the interconnection study process. Therefore, we continue to rely on the transmission provider to assess such a change under *pro forma* LGIP section 4.4 (Modifications), where the transmission provider would be able to assess whether modifications to project size (e.g., up to a 60 percent reduction) would have a material impact on the cost or timing of any interconnection requests with an equal or later queue position.

145. We disagree with Clean Energy Associations' argument that the customer engagement window is too short. We note that Order No. 2023 required transmission providers to develop a heatmap of public interconnection information to provide interconnection customers with information prior to submitting an interconnection request, which should obviate the need for a longer engagement window. We further note that Order No. 2023 adopted readiness requirements to encourage interconnection customers to submit commercially viable interconnection requests, so interconnection

customers should be relatively confident in the viability of their interconnection requests.[263]

146. We also are unpersuaded by Clean Energy Associations' request regarding circumstances in which the transmission provider fails to issue a deficiency notice within five business days. We find the requested revision unnecessary because a transmission provider taking longer than five business days to issue the deficiency notice would violate its tariff requirements to issue such a notice within five business days. We find that the requirement for interconnection customers to cure deficiencies before the close of the cluster request window is necessary to ensure the timely processing of the interconnection queue.

147. We disagree with Ørsted's and Clean Energy Associations' requests to require transmission owners (when not the transmission provider) to attend scoping meetings. The *pro forma* LGIP contemplates that the transmission owner and transmission provider may be the same entity, except in the case of an RTO/ISO, in which case the transmission owner does not have operational control of the facilities and does not perform cluster studies. We note that transmission providers have incentive, particularly in light of the study delay penalties adopted in Order No. 2023, to facilitate interconnection customers' access to information they need in order to efficiently navigate the interconnection study process. Accordingly, we will not require transmission owners to attend scoping

[263] *Id.* P 691.

meetings where the transmission owner and transmission provider are separate entities. However, RTOs/ISOs may seek an independent entity variation and propose to require attendance of any entities they feel are necessary to provide critical information to interconnection customers.

148. We disagree with requests that the Commission include a feasibility study as part of the interconnection process. The NOPR did not propose, and Order No. 2023 did not adopt, a feasibility study. We reiterate our findings in Order No. 2023 that the move from a serial interconnection process to the new cluster study process, coupled with the Commission's heatmap requirements, render the feasibility study redundant and an unnecessary burden on transmission provider resources.

149. However, in response to requests for clarification that transmission providers can continue performing feasibility studies as an independent entity variation, we reiterate that transmission providers may explain specific circumstances on compliance and justify why any deviations are either consistent with or superior to the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and/or *pro forma* SGIA or merit an independent entity variation in the context of RTOs/ISOs.

150. In response to EEI's request that the Commission clarify that provisional interconnection service requests continue to be processed as received, we clarify that Order No. 2023 did not modify the process for transmission providers to study provisional interconnection service requests.

151. In response to EEI's request that the Commission clarify how the 150-day study deadline applies to restudies, we clarify that transmission providers have 150 days from

the point that they inform interconnection customers of the restudy to complete each restudy, which must occur within 30 calendar days after the cluster study report meeting. We further clarify that, in the case of multiple restudies, we expect that the transmission provider will not definitively know whether to initiate a restudy of later-in-time clusters – and thus inform those interconnection customers that restudy is needed – until it has completed the initial restudy.

152. In response to Clean Energy Associations and IPP Coalition, we continue to find, as the Commission did in Order No. 2023, that interconnection customers must select a definitive point of interconnection to be studied when executing the cluster study agreement. As the Commission explained in Order No. 2023, requiring interconnection customers to select one definitive point of interconnection when executing the cluster study agreement allows the interconnection customer to submit its interconnection request with a proposed point of interconnection, participate in the scoping meeting during the customer engagement window, and receive feedback on its proposed point of interconnection. We continue to believe that this strikes the right balance between allowing for flexibility and potential adjustments to the point of interconnection, based on discussion with the transmission provider and the transmission provider's detailed knowledge of its transmission system, and providing transmission providers with the information necessary to conduct the cluster study, thus reducing the potential for

restudies that would be required if interconnection customers could change their points of interconnection later in the process.[264]

153. Similarly, we continue to believe that allowing multiple points of interconnection (whether they are "electrically proximate" or not) to be studied before the interconnection customer is required to select the definitive point of interconnection fails to take into account the fact that, if an interconnection customer changes the definitive point of interconnection after the cluster study, it may impact the study results of the other interconnection customers in the cluster and could lead to restudies and delays. It may be the case that an "electrically proximate" point of interconnection location can be effectively implemented within a study process without materially impacting a study process, and the current process allows the transmission provider to determine whether that change to the point of interconnection will be considered a material modification. We find this sufficient to address IPP Coalition's concern.

154. We find Ørsted's request for clarification regarding circumstances where a regulatory limitation requires a change to the point of interconnection to be beyond the scope of Order No. 2023. The Commission did not adopt a process to change the point of interconnection when there is a regulatory limitation in Order No. 2023. In such a circumstance, changes to the point of interconnection are addressed in section 4.4 of the *pro forma* LGIP, which governs modifications to an interconnection request.

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[264] *Id.* P 200.

155. We disagree with PJM's request for clarification, and in the alternative, rehearing, that transmission providers need not evaluate whether every request to change an interconnection customer's point of interconnection is a material modification. First, while we agree that evaluating a change of point of interconnection will require engineering labor, we note that the availability of the public interactive heatmap will provide interconnection customers with far more transparency into the viability of the points of interconnection on the transmission provider's system prior to entering the interconnection queue. Thus, we expect the heatmap requirement to reduce the frequency with which interconnection customers request changes to their point of interconnection, as they will be better informed prior to submitting an interconnection request. The *pro forma* LGIP defines "material modifications" as "those modifications that have a material impact on the cost or timing of any Interconnection Request with an equal or later Queue Position."[265] Other than that provision, we leave the determination of what constitutes a material modification to the transmission providers' currently-effective processes for determining materiality. We are unpersuaded that (1) interconnection customers should be limited to one change to their point of interconnection and (2) that all changes to points of interconnection should be presumed to be material outside of certain points in the cluster study, because interconnection customers already have a relatively limited window in which to request changes to points of interconnection. *Pro forma* LGIP

[265] *Pro forma* LGIP, section 1 (Definitions).

sections 3.1.2, 4.4, and 4.4.3 make clear that a request to change an interconnection customer's point of interconnection that comes after the return of the executed cluster study agreement shall constitute a material modification. We find these provisions to address PJM's concern regarding point of interconnection change requests that arise from "project developers seeking to optimize their projects in mid-process"[266] by limiting most point of interconnection change requests to early in the study process and presuming those later in the study process to be material modifications. We also find that this approach strikes a reasonable balance between the use of engineering labor to advance feasible projects and reducing late-stage interconnection request modifications or withdrawals that could slow down the study process or lead to restudy. For these reasons, we find that the existing *pro forma* LGIP provisions referenced above adequately address PJM's concerns, and therefore no clarification or rehearing is necessary.

156. As we explain in detail below in section D.1.c.ii, we are unpersuaded by NYISO's assertions that the 150-day cluster study deadline is unjust and unreasonable and that the Commission's determination reflects arbitrary and capricious decision-making. As we note below, and consistent with the Commission's statements in Order No. 2023, transmission providers may explain specific circumstances on compliance and justify why any deviations are either consistent with or superior to the *pro forma* LGIP or merit

[266] PJM Rehearing Request at 44.

an independent entity variation in the context of RTOs/ISOs. Accordingly, we grant MISO's and NYISO's requests for clarification that Order No. 2023 does not preempt transmission providers from proposing tariff-defined study deadlines that may differ from the *pro forma* LGIP's 150-day schedule. Rather, the statements MISO and NYISO refer to in Order No. 2023 decline to allow transmission providers flexibility to set *ad-hoc* deadlines beyond their standard, tariff-defined deadlines.

157. NYISO requests that the Commission clarify that, during the 45-day cluster request window, interconnection customers are limited to one 10-business day opportunity to cure a deficiency in their applications. We disagree with NYISO's interpretation of the applicable *pro forma* LGIP language and note that NYISO offers no argument to support this interpretation. We therefore clarify that interconnection customers must receive as many cure periods as needed to remedy a deficient interconnection request, as long as the end of such cure periods fall prior to the last day of the 45-day cluster request window. In other words, if an interconnection customer fails to fully cure its application within the first cure period, transmission providers must issue a second (or third) deficiency notice to an interconnection customer during the cluster request window, if time allows. We clarify that, if a transmission provider finds an interconnection request to be deficient less than 10 days before the close of the cluster

request window, the interconnection customer may have until the close of the cluster request window to cure those deficiencies.[267]

158. NYISO seeks clarification regarding the sentence in section 3.4.4 of the *pro forma* LGIP, which reads "At any time, if Transmission Provider finds that the technical data provided by Interconnection Customer is incomplete or contains errors, Interconnection Customer and Transmission Provider shall work expeditiously and in good faith to remedy such issues." We grant NYISO's requested clarification that this language is not meant to extend the time period by which an interconnection customer must address deficiencies for the transmission provider's acceptance of a valid, complete interconnection request, but instead is simply intended to permit the transmission provider and interconnection customer to address any issues that may be discovered in the interconnection process, subject to applicable deadlines. In other words, the interconnection customer and transmission provider shall work expeditiously and in good faith to remedy any errors or incomplete information (that do not merit finding the interconnection request deficient) either during the cluster request window or later, i.e., during the customer engagement window. We decline to modify the *pro forma* LGIP as proposed by NYISO because it is unnecessary.

159. NYISO seeks further clarification around when a transmission provider must complete its determination that an interconnection request is valid, the timeline in which

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[267] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 226.

an interconnection customer may cure deficiencies in its application, and treatment of interconnection requests deemed invalid during the customer engagement window. We clarify that the transmission provider must complete its determination that an interconnection request is valid by the close of the cluster request window, and therefore, interconnection customers must also cure deficient interconnection requests by the close of the cluster request window. In other words, only interconnection customers with valid interconnection requests, for which there is no need to cure deficiencies, proceed to the customer engagement window. As such, transmission providers may not continue determining whether interconnection requests are valid into the customer engagement window. This means that there is no need for transmission providers to deem interconnection requests withdrawn during the customer engagement window, as all invalid interconnection requests will already have been deemed withdrawn at the close of the cluster request window. We acknowledge NYISO's confusion regarding Paragraph 234 of Order No. 2023, which rejects the notion of withdrawing invalid interconnection requests before the end of the customer engagement window. We set aside Paragraph 234 of Order No. 2023 and clarify that an interconnection customer's cure period ends at the close of the cluster request window at the latest. Nevertheless, interconnection customers with valid interconnection requests may work with the transmission provider, per section 3.4.4 of the *pro forma* LIGP and as explained above, to resolve minor errors or incompletions in technical data throughout the process, without the need for the transmission provider to deem an interconnection request deficient, invalid, or withdrawn. To improve clarity with regard to these issues, we modify section 3.4.5 of

the *pro forma* LGIP as follows, with italics indicating additions and brackets indicating deletions:

> At the end of the Customer Engagement Window, all Interconnection Requests deemed valid that have executed a Cluster Study Agreement in the form of Appendix 2 to this LGIP shall be included in the Cluster Study. Any Interconnection Requests *for which the Interconnection Customer has not executed a Cluster Study Agreement*[not deemed valid at the close of the Customer Engagement Window] shall be deemed withdrawn (without the cure period provided under Section 3.7 of this LGIP) by Transmission Provider, the application fee shall be forfeited to the Transmission Provider, and the Transmission Provider shall return the study deposit and Commercial Readiness Deposit to Interconnection Customer. Immediately following the Customer Engagement Window, Transmission Provider shall initiate the Cluster Study described in Section 7 of this LGIP.

160. We also modify *pro forma* LGIP section 3.4.4 to clarify that all items in *pro forma* LGIP section 3.4.2 must be received during the cluster request window. Taken together, these modifications make clear that the condition to proceed from the cluster request window to the customer engagement window is a valid interconnection request, and the condition to proceed from the customer engagement window is an executed cluster study agreement.

161. We are unpersuaded by NYISO's arguments to modify the requirement for transmission providers to post an anonymized list of the projects eligible to participate in the cluster study during the customer engagement window. NYISO's position is that the requirement would complicate NYISO's own specific processes, rather than the processes of transmission providers more broadly. Consistent with the Commission's

statements in Order No. 2023, transmission providers may explain specific circumstances on compliance and justify why any deviations are either consistent with or superior to the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP, and/or *pro forma* SGIA or merit an independent entity variation in the context of RTOs/ISOs.

162. We disagree with NewSun's request to extend the 30-calendar day period for an interconnection customer to execute the facilities study agreement. The NOPR did not propose, and Order No. 2023 did not adopt, any modifications to section 8.1 of the *pro forma* LGIP regarding the 30-calendar day period. We believe that 30 calendar days is a sufficient amount of time to meet the requirements of *pro forma* LGIP section 8.1. We believe that 30-calendar day timeframe balances providing certainty about the timeline for the interconnection process and ensuring that studies progress in a timely manner while providing sufficient time for an interconnection customer to execute the facilities study agreement and submit the appropriate deposit. We note that, while the Commission implemented changes in Order No. 2023 such as the commercial readiness deposit in *pro forma* LGIP section 8.1 that increase certain burdens on interconnection customers with the goal of discouraging speculative requests, the Commission also implemented changes such as the new study delay penalty structure that reasonably incentivizes transmission providers to ensure the timely processing of interconnection requests.[268]

[268] *See id.* P 962. We also note that MISO and SPP currently only provide for 15 days to enter the facilities study phase (called Decision Point 2 in their respective

163. However, we are persuaded by NewSun's arguments regarding the overlapping timelines for the notice of restudy and execution of the facilities study agreement (with associated deposits). Therefore, we modify sections 7.3 and 8.1 of the *pro forma* LGIP to remove the requirement for transmission providers to tender an interconnection facilities study agreement simultaneously with issuance of a cluster study (or restudy) report. We modify section 8.1 of the *pro forma* LGIP to clarify that transmission providers shall tender the interconnection facilities study agreement within 5 business days after the transmission provider notifies interconnection customers that no further restudies are required. This modification addresses NewSun's concern that an interconnection customer will not know if a restudy is required before the interconnection customer is required to commit to a facilities study and make the required deposits.

164. Regarding NYTOs' request for clarification about equal queue priority, we continue to find that, under the *pro forma* LGIP, interconnection requests studied in the same cluster have equal queue priority.[269] To address the situation that NYTOs describe, which appears specific to New York, we reiterate that NYISO, as an ISO, may explain its specific circumstances on compliance and justify why any deviations merit an independent entity variation.

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generator interconnection procedures), and they each require a 20% commercial readiness deposit to enter the facilities study, whereas Order No. 2023 only requires a 10% deposit.

[269] *Id.* P 858.

165. We are not persuaded by arguments raised by several commenters regarding reforms not adopted in Order No. 2023. We are not persuaded by AEP's argument that the Commission should have included a generator replacement process in the *pro forma* LGIP. The NOPR did not propose such a process, and we continue to believe that the record in this proceeding is insufficient to require such a process generically. To AEP's alternative request for clarification, we clarify that nothing in Order No. 2023 limits transmission providers' ability to make an FPA section 205 filing, and we will continue to assess such filings on a case-by-case basis. In response to MISO, we clarify that Order No. 2023 does not require transmission providers to change, eliminate, or re-justify existing Commission-approved generator replacement processes on compliance. We reiterate our determination in Order No. 2023 that comments concerning generator replacement processes are beyond the scope of Order No. 2023.[270]

166. We also disagree with AEP's argument that the Commission should include an option for processing some interconnection requests outside the cluster study process. We continue to find, as the Commission did in Order No. 2023, that, based on the record before us, establishing a separate interconnection process outside the cluster study process could detract from transmission providers' efforts to efficiently process cluster studies.[271]

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[270] *See id.* PP 1736, 1743.

[271] *Id.* P 392.

167. Finally, we revise the *pro forma* LGIP to correct inadvertent errors and add minor, clarifying edits as follows. First, we revise section 3.4.6 to correct an inadvertent omission of the word "or" to clarify that the non-disclosure agreement used for the group cluster study scoping meeting will provide for confidentiality of identifying information *or* commercially sensitive information, consistent with the discussion in Order No. 2023.[272] Second, we also revise *pro forma* LGIP section 7.5 to clarify that cluster restudies can be triggered by withdrawal of a higher-queued interconnection customer, and that interconnection customers being restudied are responsible for the cost of any restudy, except as provided in section 3.7. Third, we revise *pro forma* LGIP section 3.5.2.4 to clarify that the requirement to track and post metrics on interconnection queue withdrawals includes each stage of the study process. Fourth, we revise *pro forma* LGIP section 3.4.6 to remove the phrase "and one or more available alternative Point(s) of Interconnection," consistent with the discussion in Order No. 2023.[273] Fifth, we revise the *pro forma* LGIP definition of "interconnection study" to reference all interconnection studies discussed in the *pro forma* LGIP.

[272] *Id.* P 247.

[273] *Id.* P 202 (declining to permit interconnection customers to submit multiple alternative points of interconnection).

3. Allocation of Cluster Network Upgrade Costs

a. Order No. 2023 Requirements

168. In Order No. 2023, the Commission added new section 4.2.1 (Cost Allocation for Interconnection Facilities and Network Upgrades) to the *pro forma* LGIP to require that transmission providers (1) allocate network upgrade costs based on the proportional impact method and (2) allocate the costs of substation network upgrades on a per capita basis.[274] To implement this requirement, the Commission added definitions for proportional impact method, substation network upgrades, and system network upgrades to the *pro forma* LGIP and *pro forma* LGIA and modified the existing definition of stand alone network upgrades. The Commission also required transmission providers to allocate the costs of interconnection facilities (i.e., both the interconnection customer's interconnection facilities and transmission provider's interconnection facilities) on a per capita basis.[275] The Commission further provided that interconnection customers may agree to share interconnection facilities, that the per capita cost allocation will apply only where interconnection customers agree to share interconnection facilities, and that interconnection customers may choose a different cost sharing arrangement upon mutual agreement.

[274] *Id.* P 453.

[275] *Id.* P 454.

169. The Commission found that transmission providers must provide tariff provisions that describe the method they will use for allocating costs of each type of network upgrade, but specific metrics and thresholds for implementing the allocation, or other specific technical information, may be included in business practice manuals, or publicly posted on the transmission provider's website.[276] The Commission found that, in particular, the technical information surrounding implementation of the proportional impact method by a particular transmission provider does not need to be included in the transmission provider's tariff under the rule of reason because these provisions are properly classified as implementation details that do not significantly affect rates, terms, and conditions of service.

170. In response to requests for the Commission to direct transmission providers to use a specific type of proportional impact method or distribution factor analysis and apply minimum distribution factor thresholds that will be used to evaluate NRIS and ERIS requests, the Commission stated that it was unpersuaded that such level of prescription is needed to ensure just, reasonable, and not unduly discriminatory or preferential rates.[277] The Commission stated that, instead, it believes that flexibility for transmission providers to develop such details as part of their compliance filings—and in their business practice manuals, where consistent with the rule of reason—is important to ensure that the

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[276] *Id.* P 462.

[277] *Id.* P 463.

proportional impact method used by each transmission provider reflects the characteristics of its region (e.g., types of network upgrade facilities identified in the region, or preferred analyses in the region for determining the share of the need for the specific network upgrade type).

b. Requests for Rehearing and Clarification

171. Generation Developers request clarification that Order No. 2023 does not prejudge whether any implementation detail regarding the proportional impact method needs to be included in the tariff rather than in a business practice manual, and that Order No. 2023 gives transmission providers flexibility to develop a method consistent with the Commission's rule of reason.[278] Generation Developers express concern that Order No. 2023 could be misinterpreted such that any implementation detail regarding the proportional impact method does not significantly affect rates and thus need not be included in the tariff. Generation Developers aver that the Commission has recognized that the rule of reason must be applied on a case-by-case basis and thus it would be inappropriate to make a generic determination that any specific detail can be placed in a business practice manual.[279] Generation Developers further argue that the Commission currently lacks the information necessary to make such a determination because whether

[278] Generation Developers Rehearing Request at 3-5.

[279] *Id.* at 4 (citing *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,237, at P 35 (2012)).

a specific threshold or metric will significantly affect rates depends on several factors that will be detailed in the transmission provider's Order No. 2023 compliance filings.

172. Longroad Energy requests rehearing of Order No. 2023's decision to not require minimum impact thresholds for purposes of the proportional impact method.[280] Longroad Energy argues that minimum impact thresholds are necessary to ensure that interconnection customers are not required to finance network upgrades for which they have a de minimis impact.[281] Longroad Energy avers that the absence of a minimum impact threshold is administratively burdensome for transmission providers because they must track a larger number of interconnection requests. Longroad Energy asserts that interconnection customers may be exposed to construction delays for network upgrades for which they only have a de minimis impact. Longroad Energy notes that the Commission has accepted minimum impact thresholds in other instances.[282] Longroad Energy further argues that minimum impact thresholds are necessary to prevent any withdrawing interconnection request from materially impacting the remaining

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[280] Longroad Energy Rehearing Request at 4-9.

[281] *Id.* at 5-6.

[282] *Id.* at 7-8 (citing *Tenaska Clear Creek Wind, LLC v. Sw. Power Pool, Inc.*, 177 FERC ¶ 61,200, *order on compliance and reh'g*, 180 FERC ¶ 61,160, at P 99 (2021), *reh'g denied by operation of law*, 181 FERC ¶ 62,090 (2022), *order addressing arguments on reh'g and denying motion for stay*, 182 FERC ¶ 61,084, at PP 33, 36 (2023); *Midcontinent Indep. Sys. Operator, Inc.*, 171 FERC ¶ 61,236, at PP 44, 56, *reh'g denied by operation of law*, 172 FERC ¶ 62,102, *order addressing arguments on reh'g*, 172 FERC ¶ 61,235 (2020)).

interconnection customers and thus triggering a withdrawal penalty.[283] Finally, Longroad Energy requests clarification that Order No. 2023 does not preclude a transmission provider from using minimum impact thresholds.

173. Clean Energy Associations request clarification that substation network upgrade cost allocation is based on the number of interconnection facilities (i.e., generator tie lines) connecting to the substation at the point of interconnection and not based on the number of generating facilities connecting to the substation.[284] Clean Energy Associations explain that it is the number of interconnection facilities, not the number of generating facilities, that drive substation expansion. Clean Energy Associations request that the Commission clarify that the transmission provider should first allocate substation network upgrade costs on a per capita basis for each interconnection facility connecting to the substation, and secondly divide those costs between the multiple generating facilities using that interconnection facility.

174. Clean Energy Associations also request clarification that substation network upgrades are at distinctive voltage levels.[285] Clean Energy Associations explain that definitive selection of a point of interconnection requires a voltage level to be specified as

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[283] *Id.* at 8-9.

[284] Clean Energy Associations Rehearing Request at 54-55.

[285] *Id.* at 55-56.

well as a substation, and that expansion costs for different voltage levels are normally unrelated and may be very different.

c. Determination

175. In response to Generation Developers' request for clarification regarding the location of details on the implementation of the proportional impact method, we clarify that, consistent with the rule of reason, the Commission will consider the details of the transmission provider's proposed proportional impact method and whether those details should be in the tariff in its individual Order No. 2023 compliance filing.

176. We are unpersuaded by Longroad Energy's request for rehearing to require all transmission providers to use minimum impact thresholds. We reiterate the Commission's finding in Order No. 2023 that it is appropriate for transmission providers to propose such details in their Order No. 2023 compliance filings to ensure that the method used by each transmission provider reflects the characteristics of its region.[286] For example, different regions may identify different types of network upgrades or have preferred analyses for identifying specific network upgrade types. We disagree with Longroad Energy's assertion that minimum impact thresholds are necessary to prevent any withdrawal from triggering a withdrawal penalty, as the transmission provider must still assess whether the withdrawal has a material impact on the cost or timing of equal or lower-queued interconnection requests in accordance with section 3.7.1 of the *pro forma*

[286] Order No. 2023, 184 FERC ¶ 61,054 at P 463.

LGIP. In response to Longroad Energy's request for clarification, we clarify that Order No. 2023 does not preclude transmission providers from proposing a minimum impact threshold.

177. In response to Clean Energy Associations' request for clarification regarding substation network upgrade cost allocation, we clarify that the cost allocation is based on the number of interconnection facilities connecting to the substation located at the point of interconnection. Accordingly, to allocate such costs per capita to each generating facility in accordance with section 4.2.1.1.a of the *pro forma* LGIP, the transmission provider must first allocate the costs of substation network upgrades on a per capita basis for each interconnection facility connecting to the substation, and then allocate those costs on a per capita basis between each generating facility using the interconnection facility.

178. We also grant Clean Energy Associations' request for clarification that substation network upgrades are at distinct voltage levels. Accordingly, we modify section 4.2.1.1.a of the *pro forma* LGIP as follows, with brackets indicating deletions and italics indicating additions:

> Substation Network Upgrades, including all switching stations, shall be allocated *first to Interconnection Facilities interconnecting to the substation at the same voltage level, and then per capita* to each Generating Facility *sharing the Interconnection Facility* [interconnecting at the same substation].

4. Shared Network Upgrades

a. Order No. 2023 Requirements

179. In Order No. 2023, the Commission declined to adopt the NOPR proposal to implement cost sharing of network upgrades between interconnection customers in an earlier cluster and interconnection customers in a subsequent cluster.[287] The Commission stated that it declined to adopt the NOPR proposal because of its potentially significant administrative burden and because Order No. 2023's cluster network upgrade cost allocation reform would address the "first mover/free rider" issue that motivated the NOPR proposal.

b. Requests for Rehearing and Clarification

180. Shell requests clarification that Order No. 2023 does not prohibit existing mechanisms of inter-cluster cost sharing of network upgrades and that the Commission will not prohibit inter-cluster cost sharing in the future.[288] Shell avers that network upgrade cost sharing between initial and subsequent interconnection customers is common in the industry, for example in the ISO-NE market.

c. Determination

181. We clarify that Order No. 2023 does not require transmission providers to eliminate, change, or re-justify existing tariff mechanisms regarding cost sharing of

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[287] *Id.* PP 486-488.

[288] Shell Rehearing Request at 14-15.

network upgrades between earlier-in-time and later-in-time clusters because such provisions are not impacted by the requirements of Order No. 2023. We reiterate that transmission providers need only seek approval to maintain previously approved variations from the *pro forma* LGIP and *pro forma* LGIA if such variations are impacted by the requirements of Order No. 2023.

5. Increased Financial Commitments and Readiness Requirements

a. Financial Security Generally

i. Order No. 2023 Requirements

182. In Order No. 2023, the Commission modified sections 3.4.2(vi), 5.1.1.1, 5.1.1.2, 7.5, and 8.1(3) of the *pro forma* LGIP to require that an interconnection customer pay the commercial readiness deposit and deposits prior to the transitional serial study, transitional cluster study, cluster restudy and the interconnection facilities study via cash or a letter of credit.[289] The Commission also established a *pro forma* two-party affected system facilities construction agreement in Appendix 11 to the *pro forma* LGIP and a *pro forma* multiparty affected system facilities construction agreement in Appendix 12 to the *pro forma* LGIP.[290] In section 4.1 of Appendix 11 to the *pro forma* LGIP and section 4.1 of Appendix 12 to the *pro forma* LGIP, the Commission required that an affected system interconnection customer provide financial security to the transmission provider in an

[289] Order No. 2023, 184 FERC ¶ 61,054 at P 690.

[290] *Id.* P 1193.

amount sufficient to cover the costs for constructing, procuring, and installing the applicable portion of affected system network upgrade(s) in the form of a guarantee, a surety bond, a letter of credit or other form of security that is reasonably acceptable to transmission provider, at the affected system interconnection customer's option.

ii. Requests for Rehearing and Clarification

183. Clean Energy Associations request clarification or, in the alternative, rehearing that acceptable forms of security for the commercial readiness deposit, transitional serial study deposit, and transitional cluster study deposit are not limited to only irrevocable letters of credit and cash.[291] Clean Energy Associations assert that the Commission did not explain the decision to list these forms of security to the exclusion of other forms, such as surety bonds or other forms of security that may be acceptable to the transmission provider, and ignored comments in the record explicitly requesting flexibility for these alternative forms of security to be considered.

184. Similarly, Longroad Energy requests rehearing to allow generator interconnection customers to pay deposits or provide security in the form of cash, irrevocable letter of credit, surety bond, or other reasonably acceptable form of financial security, at the generator interconnection customer's discretion.[292] Additionally, if the interconnection customer submits its required deposit or security in the form of a letter of credit or surety

[291] Clean Energy Associations Rehearing Request at 63-65.

[292] Longroad Energy Rehearing Request at 12.

bond, and ultimately some or all of the security is drawn by the transmission provider, Longroad Energy argues that the interconnection customer should be given the option to pay the amount due in cash rather than drawing on the letter of credit or bond. Longroad Energy argues that limiting the acceptable forms of financial assurance to only irrevocable letters of credit and cash is arbitrary and capricious and an unexplained departure from Commission precedent in Order No. 2003.[293] In addition to the deposits mentioned by Clean Energy Associations, Longroad Energy requests rehearing regarding the acceptable form of security for the deposits prior to the cluster restudy and the interconnection facilities study.[294] Longroad Energy notes that Order No. 2023 explicitly allows surety bonds or other forms of reasonably acceptable financial security for affected system network upgrade deposits but not other deposits, which is unduly discriminatory.[295]

iii. Determination

185. We are persuaded by Clean Energy Associations and Longroad Energy's arguments on rehearing. We believe that allowing surety bonds or other forms of financial security that are reasonably acceptable to the transmission provider for the commercial readiness deposit and all study deposits will help ensure that interconnection

[293] *Id.* at 9-14.

[294] *Id.* at 10-11.

[295] *Id.* at 12-13.

customers do not face unjust and unreasonable or unduly discriminatory hurdles to the interconnection of new generation through limitations on the acceptable forms of financial security. We find that acceptable forms of security for the commercial readiness deposit and deposits prior to the transitional serial study, transitional cluster study, cluster restudy and the interconnection facilities study should include not only cash or an irrevocable letter of credit, but also surety bonds or other forms of financial security that are reasonably acceptable to the transmission provider. Accordingly, we modify sections 3.4.2, 5.1.1.1, 5.1.1.2, 7.5, and 8.1 of the *pro forma* LGIP to reflect this finding.

186. However, we are not persuaded by Longroad Energy's request that, if the interconnection customer submits its required deposit or security in the form of a letter of credit or surety bond, the interconnection customer should be given the option to pay any amount drawn by the transmission provider in cash rather than drawing on the letter of credit or surety bond. Longroad Energy did not provide sufficient reasoning or evidence as to why this clarification is necessary to ensure just and reasonable and not unduly discriminatory or preferential rates. However, we clarify that we do not preclude transmission providers from allowing interconnection customers to pay cash in lieu of drawing on a previously submitted letter of credit or surety bond.

b. Increased Study Deposits

i. Order No. 2023 Requirements

187. In Order No. 2023, the Commission adopted the following study deposit framework in section 3.1.1.1 (Study Deposit) of the *pro forma* LGIP:[296]

Size of Proposed Generating Facility Associated with Interconnection Request	Amount of Deposit
> 20 MW < 80 MW	$35,000 + $1,000/MW
≥ 80 MW < 200 MW	$150,000
≥ 200 MW	$250,000

The Commission required transmission providers to collect this study deposit once, upon entry into the cluster.[297]

ii. Determination

188. Given that interconnection customers developing small generating facilities requesting NRIS submit their interconnection requests under the relevant transmission providers' LGIP,[298] we modify 3.1.1.1 as follows to clarify the applicable study deposits in such instances:

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[296] Order No. 2023, 184 FERC ¶ 61,054 at PP 502-503; *pro forma* LGIP section 3.1.1.1.

[297] Order No. 2023, 184 FERC ¶ 61,054 at P 505.

[298] *Small Generator Interconnection Agreements & Procs.*, Order No. 792, 78 FR 73240 (Dec. 5, 2013), 145 FERC ¶ 61,159, at PP 232, 235 (2013).

Size of Proposed Generating Facility Associated with Interconnection Request under the *pro forma* LGIP	Amount of Deposit
< 80 MW	$35,000 + $1,000/MW
≥ 80 MW < 200 MW	$150,000
≥ 200 MW	$250,000

189. We also modify section 3.1.1.1 of the *pro forma* LGIP to clarify that the $5,000 application fee is non-refundable. We also modify section 13.3 of the *pro forma* LGIP to remove language "or offset against the cost of any future Interconnection Studies associated with the applicable Cluster prior to beginning of any such future Interconnection Studies," given that the study deposit structure under Order No. 2023 includes an initial study deposit at the beginning of the study process, rather than separate deposits before each phase of study.

c. Demonstration of Site Control

i. Order No. 2023 Requirements

190. In Order No. 2023, the Commission adopted revisions to the *pro forma* LGIP and *pro forma* LGIA to add more stringency to the site control requirements and to help prevent speculative interconnection requests from entering the interconnection queue.[299] The Commission found that, taken together, these reforms will help ensure that

[299] Order No. 2023, 184 FERC ¶ 61,054 at P 583.

commercially viable interconnection requests with demonstrated site control or with demonstrated regulatory limitations will be able to enter the interconnection queue, thereby reducing the negative impacts of speculative interconnection requests.

191. As relevant to the requests for rehearing and clarification, in Order No. 2023, the Commission revised: (1) the definition for "site control" in section 1 of the *pro forma* LGIP and in article 1 of the *pro forma* LGIA;[300] and (2) section 3.4.2 of the *pro forma* LGIP to include a limited option for interconnection customers to submit a deposit in lieu of site control when they submit their interconnection request—only if qualifying regulatory limitations prohibit the interconnection customer from obtaining site control.[301]

192. Also relevant to the requests for clarification, in Order No. 2023, the Commission clarified that deposits in lieu of site control for interconnection customers with regulatory limitations are refundable and cannot be applied to the costs of interconnection studies or

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[300] *Id.* P 584 ("Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility; (2) an option to purchase or acquire a leasehold site of sufficient size to construct and operate the Generating Facility for such purpose; or (3) any other documentation that clearly demonstrates the right of Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Transmission Provider will maintain acreage requirements for each Generating Facility type on its OASIS or public website.").

[301] *Id.* P 605.

withdrawal penalties.[302] The Commission also clarified that the site control demonstration requirements apply only to the land needed for the generating facility and explained that, because it did not propose site control requirements for interconnection facilities in the NOPR, it declined to address comments suggesting alternative site control requirements for interconnection facilities or network upgrades.[303]

ii. Requests for Rehearing and Clarification

193. IPP Coalition requests rehearing and urges the Commission to establish a requirement for full site control over generator interconnection facilities without a deposit in lieu of site control demonstration option at the facilities study phase.[304] IPP Coalition contends that Order No. 2023 limited site control requirements to "the land needed for the generating facility" and declined to extend any site control requirements to the interconnection customer's interconnection facilities without substantive consideration and a reasoned response to the comments urging such a requirement,[305] which is contrary to reasoned decision-making principles in violation of the APA. IPP Coalition argues that requiring site control for interconnection facilities would increase the quality of

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[302] *Id.* P 612.

[303] *Id.* P 604.

[304] IPP Coalition Rehearing Request at 6.

[305] *Id.* at 3-4 (citing AEE Initial Comments at 18; AEP Initial Comments at 21-23; Cypress Creek Initial Comments at 22; Enel Initial Comments at 41-42; MISO Initial Comments at 56; National Grid Initial Comments at 22-23; and Shell Reply Comments at 23).

interconnection study results and increase certainty for interconnection customers as the interconnection process becomes more costly and risky to navigate. IPP Coalition further argues that the record reflects that such a requirement could prevent gaming and reduce the risk of more speculative projects delaying the interconnection process.[306]

194. Clean Energy Associations ask the Commission to clarify that the revised definition of site control in the *pro forma* LGIP and *pro forma* LGIA is not meant to impose term requirements on site control.[307] Further, Clean Energy Associations urge the Commission to clarify and modify the definition of site control to prevent future confusion and misinterpretation by transmission providers regarding any term requirements for site control. Clean Energy Associations assert that Order No. 2023 revised the definition of site control in a way that is not discussed in the order or in the preceding NOPR to include the words "right to develop, *construct, operate, and maintain* the Generating Facility *over the term of expected operation* of the Generation Facility" (emphasis added).[308] Clean Energy Associations assert that this revision implies that a lease option or other form of site control must have a term that is valid for the entire life of the generating facility. Clean Energy Associations argue that such a term is contrary

[306] *Id.* at 4-5 (citing Order No. 2023, 184 FERC ¶ 61,054 at PP 537-539).

[307] Clean Energy Associations Rehearing Request at 63.

[308] *Id.* at 61.

to standard industry practice,[309] is unnecessary to ensure that developers have sufficient rights to develop, construct, operate, and maintain their generating facilities, and unnecessarily increases the cost of development, resulting in rates to consumers that are unjust and unreasonable.[310]

195. ACP requests that the Commission clarify that, in their compliance filings, transmission providers may seek to expand opportunities for interconnection customers to submit deposits in lieu of demonstrating 90% site control when submitting an interconnection request to address other exigent circumstances beyond regulatory constraints.[311] ACP argues that land acquisition in dense urban areas where battery storage facilities are more frequently sited is much more difficult and costly to achieve at the time an interconnection request is submitted than is typically the case for project sites much further from load. ACP asserts that denying such flexibility on compliance could result in key battery storage projects and other projects near load being unable to move

[309] Clean Energy Associations states that the standard industry practice is to execute a development lease with a development term and an extended term. Clean Energy Associations explain that the development term typically lasts until the start of construction, is less than ten years, and expires if not extended by the interconnection customer. Clean Energy Associations further explain that, when an interconnection customer is ready to begin construction, the lease grants the customer the unilateral right to enter the extended term at a pre-determined higher payment rate. *Id.*

[310] *Id.* at 62-63.

[311] ACP Clarification Request at 1-3.

forward, endangering grid reliability where and when those resources are most needed.[312] ACP argues that this clarification would not alter any aspect of Order No. 2023 but would provide valuable information to transmission providers and interconnection customers in developing effective compliance filings.[313]

196. In the event the point of interconnection must change due to a new government policy or regulatory requirement, Ørsted requests clarification that any deposits submitted in lieu of site control would still be treated as refundable and the project would not be subject to withdrawal penalties if the change cannot be accommodated.[314]

iii. Determination

197. We are unpersuaded by IPP Coalition's request for rehearing of the Commission's decision to apply site control demonstration requirements only to the land needed for the generating facility. We reiterate that the Commission did not propose site control requirements for interconnection facilities in the NOPR. While we note that some comments were submitted on this topic,[315] we continue to find the record insufficient for the Commission to assess alternative site control requirements for interconnection

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[312] *Id.* at 3 (also arguing that lease options available in dense urban areas typically have shorter terms than the phases of interconnection studies that determine project feasibility and capacity deliverability, which in turn can serve to justify more definitive site control).

[313] *Id.* at 4.

[314] Ørsted Rehearing Request at 11.

[315] Order No. 2023, 184 FERC ¶ 61,054 at PP 535-539.

facilities and impose them on a nationwide basis. We also note that some of the comments that were submitted argued that interconnection customers require flexibility when siting interconnection facilities because the route for such facilities may not be identified until the very end of the interconnection process.[316]

198. We are also unpersuaded by Clean Energy Associations' request for clarification and to modify the definition of site control to avoid imposing term limits. We disagree with Clean Energy Associations that Order No. 2023 revised the definition of site control in a way that was not discussed in the NOPR and note that the proposed definition of site control in the NOPR included the words "right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generation Facility."[317] We find that allowing interconnection customers to submit site control documentation with a term shorter than the expected operation of the generating facility would increase risks for all parties. For example, in the event a shorter lease expires, an interconnection customer could face property rights disputes that threaten its ability to operate its generating facility, which in turn, could jeopardize the transmission provider's ability to reliably operate its transmission system. Consistent with Order No. 2023, we find that it is the interconnection customer's responsibility to obtain exclusive site control over the term of expected operation of the generating facility.

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[316] *Id.* P 535.

[317] NOPR, 179 FERC ¶ 61,194, at app. B, section 1.

199. We are further unpersuaded by ACP's request for clarification. We reiterate that, because a deposit in lieu of site control does not demonstrate that an interconnection customer has the exclusive right to develop a site, it does not indicate that an interconnection customer is ready to proceed with construction and commercial operation of the generating facility. As a result, we believe that allowing transmission providers to expand the option for interconnection customers to submit a deposit in lieu of demonstrating site control to address other exigent circumstances, beyond regulatory limitations, would not help to prevent speculative, commercially non-viable interconnection requests from entering the interconnection queue. In cases where it is particularly challenging or costly to achieve exclusive site control, the interconnection customer may not be ready to proceed with the construction and commercial operation of the generating facility, and therefore it may be inappropriate to submit an interconnection request for such a facility. Thus, we decline to clarify that transmission providers may expand the option for interconnection customers to submit a deposit in lieu of demonstrating site control.

200. In the event a new regulatory limitation requires a change to the point of interconnection that cannot be accommodated and results in an interconnection request being withdrawn, we grant Ørsted's request for clarification and clarify that any deposits submitted by the interconnection customer in lieu of site control must be refundable. Nevertheless, the interconnection customer may be subject to a withdrawal penalty. We acknowledge that certain interconnection customers, such as offshore wind resources, may be required to modify their point of interconnection, after they have already

submitted an interconnection request, in response to a state or federal policy or regulation. However, the Commission did not adopt a process for interconnection customers to modify their point of interconnection due to a regulatory limitation in Order No. 2023. An interconnection customer can request to modify its interconnection request pursuant to section 4.4 of the *pro forma* LGIP, but if the transmission provider determines that the change to the point of interconnection is a material modification, and the interconnection customer elects to withdraw its interconnection request, the interconnection customer may be subject to a withdrawal penalty.

d. Commercial Readiness

i. Order No. 2023 Requirements

201. In Order No. 2023, the Commission revised sections 3.4.2, 7.5, 8.1, and 11.3 of the *pro forma* LGIP to require interconnection customers to submit commercial readiness deposits to help reduce the submission of speculative, commercially non-viable interconnection requests into interconnection queues.[318] The Commission found that, because the interconnection customer's total commercial readiness deposit held by the transmission provider increases as the interconnection process proceeds, this approach will encourage interconnection customers not ready to proceed through the interconnection process—or whose projects become commercially non-viable during the

[318] Order No. 2023, 184 FERC ¶ 61,054 at P 690.

interconnection process—to withdraw earlier in the process, thereby lessening the incidence of late-stage withdrawals that result in delays and restudies.[319]

202. The Commission declined to adopt the non-financial commercial readiness demonstrations proposed in the NOPR because they were not necessary to address the need for reform—providing additional deterrence of speculative, commercially non-viable interconnection requests—given the significant, increasing commercial readiness deposits adopted instead.[320] The Commission also indicated that the non-financial commercial readiness demonstrations proposed in the NOPR may not necessarily serve as appropriate indicators of a proposed generating facility's commercial viability on a national basis, or may not match the timelines of state procurement efforts.[321] Additionally, the Commission expressed concern that the proposed non-financial commercial readiness demonstrations could incentivize power purchasers in some regions to execute purchase contracts with interconnection customers whose generating facilities will later be determined to be commercially non-viable.[322]

203. Because the Commission did not adopt the non-financial commercial readiness demonstrations proposed in the NOPR, the Commission found that it was unnecessary to

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[319] *Id.* P 691.

[320] *Id.* P 694.

[321] *Id.* PP 695-696.

[322] *Id.* P 698.

address commenter concerns that certain non-financial commercial readiness demonstrations could provide an unduly discriminatory or preferential advantage to projects being developed by transmission providers or their affiliates.[323] Although the Commission found that commercial readiness deposits are sufficient to address the need for reform in this proceeding, the Commission stated that this finding does not preclude transmission providers from proposing to adopt non-financial commercial readiness demonstrations on compliance, provided they meet the requirements of the relevant standards (i.e., an independent entity variation or the "consistent with and superior to" standard) when requesting a variation.[324]

ii. Requests for Rehearing and Clarification

204. Clean Energy Associations request that the Commission clarify Order No. 2023 by indicating the evaluation framework to determine if non-financial commercial readiness criteria are unduly discriminatory or preferential.[325] Clean Energy Associations urge the Commission to clarify how it will ensure that any additional non-financial commercial readiness demonstrations that a transmission provider may propose will not provide an unduly or preferential advantage to projects being developed by the transmission provider or its affiliates. Clean Energy Associations further request that the Commission clarify

[323] *Id.* P 700.

[324] *Id.* P 701.

[325] Clean Energy Associations Rehearing Request at 67.

whether it will require a proposing transmission provider to use the *pro forma* readiness requirements before, or along with, implementing non-financial demonstrations. In the alternative, Clean Energy Associations seek rehearing on the basis that the Commission failed to meaningfully respond to evidence that the non-financial commercial readiness demonstrations present ample opportunity for non RTO/ ISO transmission providers to discriminate against independent power producers.[326] Clean Energy Associations argue that it is nearly impossible for independent power producers to enter the queue by making a non-financial demonstration of commercial readiness, whereas transmission providers may be able to use non-financial readiness demonstrations to grant their own projects preferential contracts, resulting in undue discrimination against independent power producers.[327]

iii. Determination

205. We are unpersuaded by Clean Energy Associations' arguments on rehearing that the Commission must establish an evaluation framework to determine if non-financial

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[326] *Id.* (citing ACORE Reply Comments at 4; ACPA And Renew Northeast Reply Comments at 4-6; AEE Initial Comments at 20; AEE Reply Comments at 12; Alliant Energy Initial Comments at 5-6; Clean Energy Associations Initial Comments at 34-35; CREA/New Sun Initial Comments at 57; CREA and NewSun Energy Reply Comments at 22-45; Cypress Creek Initial Comments at 22-23; Enel Initial Comments at 44; ENGIE Initial Comments at 5; ENGIE Reply Comments at 2-3; EPSA Initial Comments at 9; Fervo Energy Reply Comments at 6-7; New Jersey Commission Reply Comments at 6-8; NextEra Initial Comments at 25; NextEra Reply Comments at 14-16; Pine Gate Initial Comments at 27; PIOs Initial Comments at 29-30; R Street Initial Comments at 13; SEIA Initial Comments at 25; and Vistra Initial Comments at 6).

[327] *Id.* at 68-69 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 667).

commercial readiness criteria are unduly discriminatory or preferential. The Commission did not adopt non-financial commercial readiness demonstrations in Order No. 2023, and therefore such an evaluation framework is not needed to evaluate compliance with Order No. 2023. Rather, we reiterate the Commission's finding that non-financial commercial readiness demonstrations are not necessary to address the need for reform—providing additional deterrence of speculative, commercially non-viable interconnection requests—given the significant, increasing commercial readiness deposits the Commission adopted in Order No. 2023. Given that the Commission did not adopt non-financial commercial readiness demonstrations, we do not need to respond to arguments that such demonstrations could be unduly discriminatory. As such, we are not prejudging any compliance proposals that might include non-financial commercial readiness demonstrations, and transmission providers may explain specific circumstances on compliance and justify why any deviations from Order No. 2023 are either consistent with or superior to the *pro forma* LGIP or merit an independent entity variation in the context of RTOs/ISOs.[328]

e. Withdrawal Penalties

i. Order No. 2023 Requirements

206. In Order No. 2023, the Commission added the term "withdrawal penalty" to section 1 of the *pro forma* LGIP; revised section 3.7 of the *pro forma* LGIP; and added

[328] Order No. 2023, 184 FERC ¶ 61,054 at P 1764.

sections 3.7.1, 3.7.1.1, and 3.7.1.2 related to withdrawal penalties to the *pro forma* LGIP.[329] The Commission required transmission providers to apply withdrawal penalties to an interconnection customer if: (1) the interconnection customer withdraws its interconnection request at any point in the interconnection process; (2) the interconnection customer's interconnection request has been deemed withdrawn by the transmission provider at any point in the interconnection process; or (3) the interconnection customer's generating facility does not reach commercial operation (such as when an interconnection customer's LGIA is terminated prior to reaching commercial operation).[330] However, a withdrawal penalty must only be assessed if the withdrawal has a material impact on the cost or timing of any interconnection requests with an equal or lower queue position. The Commission stated that the interconnection customer will also be exempt from paying a withdrawal penalty if (1) the interconnection customer withdraws its interconnection request after receiving the most recent cluster study report and the network upgrade costs assigned to the interconnection customer's request have increased 25% compared to the previous cluster study report, or (2) the interconnection customer withdraws its interconnection request after receiving the individual facilities study report and the network upgrade costs assigned to the interconnection customer's

[329] *Id.* P 780.

[330] *Id.* P 783.

request have increased by more than 100% compared to costs identified in the cluster study report.[331]

207. The Commission required a transmission provider to assess a withdrawal penalty on an interconnection customer with a proposed generating facility that does not reach commercial operation based either on the actual study costs or on a percentage of the interconnection customer's assigned network upgrade costs, depending on what phase the interconnection customer withdraws its interconnection request.[332] Thus, the withdrawal penalty for an interconnection customer will be calculated as the greater of the study deposit or: (1) two times the study cost if the interconnection customer withdraws during the cluster study or after receipt of a cluster study report; (2) 5% of the interconnection customer's identified network upgrade costs if the interconnection customer withdraws during the cluster restudy or after receipt of any applicable restudy reports; (3) 10% of the interconnection customer's identified network upgrade costs if the interconnection customer withdraws during the facilities study, after receipt of the individual facilities study report, or after receipt of the draft LGIA; or (4) 20% of the interconnection customer's identified network upgrade costs if, after executing, or requesting to file unexecuted, the LGIA, the interconnection customer's LGIA is terminated before its generating facility achieves commercial operation.

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[331] *Id.* P 784.

[332] *Id.* P 791.

208. The Commission required transmission providers to use the withdrawal penalty funds as follows: (1) to fund studies and restudies in the same cluster; (2) if withdrawal penalty funds remain, to offset net increases in costs borne by other remaining interconnection customers from the same cluster for network upgrades shared by both the withdrawing and non-withdrawing interconnection customers prior to the withdrawal; and (3) if any withdrawal penalty funds remain, to be returned to the withdrawing interconnection customer.[333]

209. Section 3.7.1.2.1 of the *pro forma* LGIP describes the transmission provider's handling of withdrawal penalty funds and the first step of distributing them to fund studies and restudies.[334] For a single cluster, the transmission provider shall hold all withdrawal penalty funds until all interconnection customers in that cluster have: (1) withdrawn or been deemed withdrawn; (2) executed an LGIA; or (3) requested an LGIA to be filed unexecuted. Any withdrawal penalty funds collected shall first be used to fund studies for interconnection customers in the same cluster that have executed an LGIA or requested an LGIA to be filed unexecuted. Distribution of the withdrawal penalty funds for such study costs shall not exceed the total actual study costs.

210. The Commission adopted section 3.7.1.2.2 of the *pro forma* LGIP, which provides that if, after the first distribution step is complete, withdrawal penalty funds remain, the

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[333] *Id.* P 798.

[334] *Id.* P 801.

transmission provider must proceed to the second step of distributing them to offset net increases in network upgrade cost assignments driven by the withdrawal.[335] The transmission provider will determine if the withdrawn interconnection customers, at any point in the cluster study process, shared cost assignment for one or more network upgrades with any remaining interconnection customers in the same cluster based on the cluster study report, cluster restudy report(s), interconnection facilities study report, and any subsequent issued restudy report for the cluster.

211. If the transmission provider determines that withdrawn interconnection customers shared cost assignment for network upgrades with remaining interconnection customers in the same cluster, the transmission provider will calculate the remaining interconnection customers' net increase in costs (i.e., financial impact) due to a shared cost assignment for network upgrades with the withdrawn interconnection customer.[336] It will then distribute withdrawal penalty funds as described in section 3.7.1.2.3 of the *pro forma* LGIP, depending on whether the withdrawal occurred before the withdrawing interconnection customer executed an LGIA (i.e., during the cluster study process) or afterward.

212. If the transmission provider determines that more than one interconnection customer in the same cluster was financially impacted by the same withdrawn

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[335] *Id.* P 802.

[336] *Id.* P 803.

interconnection customer, the transmission provider will apply the relevant withdrawn interconnection customer's withdrawal penalty to reduce the financial impact to each impacted interconnection customer based on each withdrawn interconnection customer's proportional share of the financial impact.[337] Each interconnection customer's proportional share will be determined by either the proportional impact method if the net cost increase is related to a system network upgrade or on a per capita basis if the net cost increase is related to a substation network upgrade.

213. Section 3.7.1.2.4 of the *pro forma* LGIP details the process by which the transmission provider will provide amended LGIAs to any interconnection customers in the cluster that qualify for distribution of withdrawal penalty funds under this framework.[338] To account for withdrawals that occurred *during the cluster study process*, the transmission provider must do the following: within 30 calendar days of all interconnection customers in the same cluster having: (1) withdrawn or been deemed withdrawn; (2) executed an LGIA; or (3) requested an LGIA to be filed unexecuted, determine if, and to what extent, any interconnection customers qualify to have their increased network upgrade costs offset by withdrawal penalty funds and provide such interconnection customers with an amended LGIA that provides the reduction in network

[337] *Id.* P 804.

[338] *Id.* P 805.

upgrade cost assignment and associated reduction to the interconnection customer's financial security requirements.

214. To account for withdrawals that occurred in the same cluster after the withdrawing interconnection customer executed an LGIA, or requests the filing of an unexecuted LGIA, the transmission provider must do the following: within 30 calendar days of such withdrawal or termination, determine if, and to what extent, any interconnection customers qualify to have their increased network upgrade costs offset by withdrawal penalty funds and provide such interconnection customers with an amended LGIA that provides the reduction in network upgrade cost assignment and associated reduction to the interconnection customer's financial security requirements.[339]

215. For any given withdrawal, if the transmission provider determines that there are no network upgrade cost assignments in the withdrawn interconnection customer's cluster shared with the withdrawn interconnection customer, or if the transmission provider determines that the withdrawn interconnection customer's withdrawal did not cause a net increase in the shared cost assignment for any remaining interconnection customers in the cluster, the transmission provider must return the remaining withdrawal penalty to the withdrawn interconnection customer.[340] Such remaining withdrawal penalties will be returned to withdrawn interconnection customers based on the proportion of each

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[339] *Id.* P 806.

[340] *Id.* P 807.

withdrawn interconnection customer's contribution to the total amount of withdrawal penalty funds collected for the cluster. The transmission provider must make such disbursement within 60 calendar days of the date on which all interconnection customers in the same cluster have either: (1) withdrawn or been deemed withdrawn; (2) executed an LGIA; or (3) requested an LGIA to be filed unexecuted.

216. Finally, section 3.7.1.2.5 of the *pro forma* LGIP provides that if, after the first and second distribution steps are complete, some or all of an interconnection customer's withdrawal penalty remains, the transmission provider must return the balance of the withdrawn interconnection customer's withdrawal penalty funds to the withdrawn interconnection customer.[341]

ii. Requests for Rehearing and Clarification

217. NYISO states that the Commission's withdrawal penalty structure adopted in Order No. 2023 does not reflect reasoned decision-making as it is unnecessarily complicated and establishes significant new administrative burdens on the transmission provider that are at odds with the intent of Order No. 2023 to enable transmission providers to more efficiently and timely process interconnection requests.[342] NYISO states that the Commission's framework substantially deviates from its straightforward proposal in the NOPR, in which the transmission provider would solely use the collected

[341] *Id.* P 809.

[342] NYISO Rehearing Request at 47-48.

penalties to offset study costs for the cluster. NYISO asserts that the Commission has not provided a reasonable basis for expanding this process to insert an additional layer to address offsetting increases in network upgrade costs for shared network upgrades. NYISO states that the new requirements will require the transmission provider to keep track of multiple penalty streams tied to each withdrawing developer, of which there will likely be a substantial number, across multiple studies while also requiring the performance of extensive analysis concerning the impact of the withdrawal of each of these projects on the remaining projects. NYISO asserts that the Commission should select one approach that can be reasonably implemented without requiring the commitment of significant additional resources or, alternatively, should permit each transmission provider to determine how such collected penalty costs can be best put to use in its region.[343]

218. NYISO states that, if the Commission elects to retain its withdrawal penalty approach, NYISO requests rehearing and/or clarification of certain elements of these requirements.[344] First, NYISO states that the Commission should clearly establish that withdrawal penalties cannot exceed the dollar amount secured by transmission providers. NYISO asserts that transmission providers cannot be responsible for and should not have to incur the administrative resource and expense of having to hunt down or to enter into

[343] *Id.* at 48-49.

[344] *Id.* at 49-50.

litigation with withdrawn interconnection customers to obtain any withdrawal penalties that they fail to pay, and should not be required to pass on any gaps in uncollected penalty amounts to their market participants. NYISO therefore argues that the Commission should modify the withdrawal penalty rules: (1) to permit the transmission provider to require increases in deposits from interconnection customers when it becomes evident that the secured amount is not sufficient to offset penalty amounts; and/or (2) to establish that, in the event of a gap between the secured amount and withdrawal penalties, the transmission provider is not required to pay out any uncollected amount under the penalty distribution rules or to recover such difference from its market participants.

219. Clean Energy Associations request rehearing and state that, while they support the inclusion of the penalty-free withdrawal provisions as a necessary protection for interconnection customers, the thresholds set by the Commission are unjust and unreasonable and will result in significant uncertainty for interconnection customers and inefficient queue processing.[345] Clean Energy Associations first argue that the 100% increase in network upgrade costs threshold for penalty-free withdrawal from the interconnection queue at the facilities study stage (compared to costs identified in a previous cluster study report) requires interconnection customers to withstand an unjust and unreasonable cost increase at such a late stage. Clean Energy Associations state that requiring a 100% increase after the facilities study for a penalty-free withdrawal is

[345] Clean Energy Associations Rehearing Request at 29-30.

arbitrary and capricious, as well as unjust and unreasonable because it would serve to effectively penalize interconnection customers for determinations beyond their control, at a late phase when costs should become more certain—not subject to potential doubling. Clean Energy Associations assert that this is inconsistent with Order No. 2023's goal and justification for subjecting interconnection customers to increasing cost and risk in the form of higher milestone payments and withdrawal penalties as they move through the stages of the interconnection process, which is intended to incentivize interconnection customers to drop out as soon as they learn that their projects are commercially non-viable.[346] Clean Energy Associations submit that the Commission should lower this threshold to a 50% cost increase post-study for a penalty-free withdrawal, consistent with the penalty-free withdrawal provisions approved in SPP, MISO, and PJM.[347]

220. NYISO explains that the Order No. 2023 withdrawal penalty requirements establish certain exceptions to an interconnection customer's responsibility for withdrawal penalties, including in cases in which the transmission provider determines that "the withdrawal does not have a material impact on the cost or timing of any Interconnection Request with an equal or lower Queue Position."[348] NYISO argues that the Commission should eliminate this material impact threshold exception, which it

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[346] *Id.* at 30-31 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 691).

[347] *Id.* at 31 (citations omitted).

[348] NYISO Rehearing Request at 50-51.

argues is inconsistent with the Commission's rationale for the withdrawal penalties, is not well defined, and will create an additional administrative, time-intensive burden on transmission providers. NYISO states that an interconnection customer's withdrawal at the conclusion of a study phase made use of the transmission provider's limited time and resources to the detriment of other interconnection customers that are ready to proceed and the overall time for completing the study phase, and that this harm occurs regardless of whether or not the actual study results indicate that the withdrawal of its project has a material impact on the cost or timing of other interconnection requests.

221. NYISO further states that the Commission neither defined nor provided guidance concerning what constitutes a material impact, leaving it instead to the transmission provider to determine.[349] NYISO argues that this creates significant inefficiencies and administrative burdens to require transmission providers to assess each withdrawing project—which could potentially be dozens—at each study phase and determine on a case-by-case basis what individual impact that project has on the cost and timing of any interconnection request with an equal or lower queue position. NYISO states that this would require reviewing such impacts for not only all other projects participating in the cluster, but also all other lower queued large and small generating facilities in a transmission provider's interconnection queue. NYISO argues that this time intensive

[349] *Id.* at 51.

analysis required upon each withdrawal is counter to one of the primary goals of Order No. 2023: to increase efficiencies in the interconnection process.

222. Clean Energy Associations also seek clarification to provide consistency and objectivity regarding what constitutes a material impact resulting from a withdrawal.[350] Clean Energy Associations urge the Commission to clarify that transmission providers must develop criteria to use in assessing materiality and include such criteria in their compliance filings and tariffs, and suggest modifications to *pro forma* LGIP section 3.7.1.[351] Clean Energy Associations assert that such clarification would still allow transmission providers the deference to make materiality determinations, but would also provide interconnection customers with a clear understanding of how materiality will be determined by each provider, while also ensuring consistent treatment of interconnection customers by transmission providers and consistent application of the required withdrawal penalty approach. Clean Energy Associations also ask the Commission to clarify that, when a transmission provider makes a materiality determination after a withdrawal, that such determination or other information associated therewith be made available along with and at the same time as the penalty revenue posting required by revised *pro forma* LGIP section 3.7.1.2. Clean Energy Associations argue that, absent the mechanisms requested in this clarification, the Commission and interconnection

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[350] Clean Energy Associations Rehearing Request at 56.

[351] *Id.* at 58-59.

customers would have little or no visibility into transmission providers' implementation of the immateriality exemption, the inconsistent application of which could have significant impacts on competition and could result in undue discrimination and preferential treatment amongst similarly situated interconnection customers.

223. WIRES states that Order No. 2023 provides that any withdrawal penalty funds collected by the transmission provider are to be distributed among the remaining interconnection customers in the relevant cluster.[352] Specifically, WIRES explains that Order No. 2023 indicates that such withdrawal penalties are to be used to reduce any net increases to the existing network upgrade cost assignments to remaining customers that saw increased costs as a result of the withdrawing customer. WIRES states that, read together with new section 3.7.1.2.2 of the *pro forma*, the new rule provides that penalty revenues are not directly returned to non-withdrawing customers; rather, the transmission provider is to use those funds to reduce the costs of network upgrades that are ultimately assigned to non-withdrawing interconnection customers. WIRES states that, because penalty revenues do not appear to be directly returned to non-withdrawing customers, it is unclear *how* the rule requires the transmission provider to use those funds to reduce the interconnection customers' network upgrade cost assignment. As a consequence, WIRES asserts that Order No. 2023 could be read to require the transmission provider to reduce its construction costs included in rates associated with the network upgrade and preclude

[352] WIRES Rehearing Request at 9-10.

it from earning a return on the full cost of the network upgrades that transmission owners develop to serve the needs of the cluster. WIRES claims that, in effect, the withdrawal penalty crediting mechanism could infringe upon a transmission provider's right to self-fund network upgrades and earn a return of and on their investment. WIRES argues that the Commission's proposed rule never specified, much less suggested, that withdrawal penalties would be used to offset network upgrade costs, and the Commission should clarify that the Order No. 2023 withdrawal penalty distribution may be used to offset payment amounts by the remaining interconnection customers to the transmission owner but does not affect the overall revenue requirement for the network upgrades.

224. WIRES states that the Commission could also clarify that the withdrawal penalty funds are to be distributed directly to remaining interconnection customers as cash payments, which it claims would achieve the Commission's apparent objectives without impermissibly interfering with a transmission owner's right to fund network upgrades.[353] WIRES states that, absent the Commission granting the above clarification, WIRES seeks rehearing on the basis that the Commission failed to provide adequate notice and opportunity for public comment on the consequences, impacts, and legality of, and possible alternatives to, this new withdrawal penalty distribution scheme prior to issuing Order No. 2023 as required by the Administrative Procedure Act, and failed to consider the effects of its withdrawal distribution penalty.

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[353] *Id.* at 11.

225. NYISO requests that the Commission confirm or otherwise clarify the timeframes for the specific withdrawal penalty application process steps from the date on which all interconnection customers in the cluster have either withdrawn or been deemed withdrawn, executed an LGIA, or requested the LGIA be filed unexecuted.[354] NYISO states that it understands the transmission provider to have the following responsibilities within either 30 or 60 calendar days of this start date. NYISO understands that the transmission provider must within 30 days: (1) determine the use of the collected withdrawal penalty funds for study costs; (2) refund study costs; (3) determine the use of any remaining collected withdrawal penalty funds for net increases to network upgrade costs; and (4) provide an amended LGIA in the case of any offset of increases to network upgrade costs. NYISO states that it further understands that the transmission provider must return any remaining security to interconnection customer within 60 calendar days. NYISO requests that the Commission confirm these are the intended deadlines or clarify the actual deadlines for these responsibilities.

226. NYISO next states that *pro forma* LGIP section 3.7.1.2.1 indicates that the transmission provider must use the collected withdrawal penalties first "to fund studies conducted under the cluster study process," and that the cluster study process is defined to include all of the interconnection studies and re-studies.[355] However, NYISO states

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[354] NYISO Rehearing Request at 52-53.

[355] *Id.* at 53 (citing revised *pro forma* LGIP section 1).

that section 3.7.1.2.1 elsewhere describes distributing withdrawal penalties only in the context of the cluster study. NYISO asks the Commission to clarify whether this tariff language was intended to apply solely to distribution of penalty funds for cluster study costs or for all the interconnection studies—e.g., cluster re-studies and the interconnection facilities study.

227. NYISO also asks the Commission to clarify whether the requirements in *pro forma* LGIP section 3.7.1.2.2 for refunding any penalty amounts not used to offset study costs and net increases in upgrade costs are intended to be the same or different from the requirements for distributing such remaining penalty funds under section 3.7.1.2.5.[356] NYISO requests that the Commission provide an expanded version of the helpful example it provided in Paragraph 808 of Order No. 2023 that walks through the different potential variations of this process.

228. Clean Energy Associations and Shell ask the Commission to clarify the scope of the withdrawal penalty contained in revised *pro forma* LGIP sections 5.1.1.1 and 5.1.1.2.[357] Clean Energy Associations state that the withdrawal penalty definition's reference to revised *pro forma* LGIP section 3.7.1, and its subsection 3.7.1.1, leads to a conclusion that every withdrawal penalty is to be calculated consistent with revised

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[356] *Id.*

[357] Clean Energy Associations Rehearing Request at 59-60; Shell Rehearing Request at 10.

pro forma LGIP section 3.7.1.[358] Clean Energy Associations and Shell state that section 5 of the revised *pro forma* LGIP procedures for the transitional cluster study process refers to the withdrawal penalty provisions of section 3.7, but that certain cross references are unclear.[359] Clean Energy Associations argue that the Commission should clarify whether the term "Withdrawal Penalty" in revised *pro forma* LGIP sections 5.1.1.1 and 5.1.1.2 either: (1) should not be capitalized so that the revised *pro forma* LGIP section 1 defined term "Withdrawal Penalty," and its corresponding reference to the calculation in *pro forma* LGIP section 3.7.1, do not apply to withdrawals during the transition process; or (2) a new term "Transitional Withdrawal Penalty" should be defined as a specific withdrawal penalty that applies only during the transition process and is calculated pursuant to Revised *pro forma* LGIP sections 5.1.1.1 and 5.1.1.2.[360] Clean Energy Associations and Shell further argue that the Commission also should clarify whether the term "study cost," as used in the calculation of the transitional withdrawal penalty, includes the cost of the entire cluster study or the study cost that has been assigned to the withdrawing interconnection customer up to the point of its withdrawal.

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[358] Clean Energy Associations Rehearing Request at 60.

[359] *Id.*; Shell Rehearing Request at 10.

[360] Clean Energy Associations Rehearing Request at 60-61; *see also* Shell Rehearing Request at 11.

229. Clean Energy Associations ask the Commission to clarify that the new penalty-free withdrawal thresholds will apply to transitional projects.[361] Clean Energy Associations argue that this clarification will increase project certainty and fairly allow projects that go through the transition to proceed in good faith without the risk that new results that show substantially higher costs will not allow them to withdraw penalty-free.

iii. Determination

230. We deny NYISO's rehearing request as it pertains to the withdrawal penalty structure. Specifically, we disagree with NYISO's assertion that the withdrawal penalty structure adopted in Order No. 2023 is unnecessarily complicated and burdensome on transmission providers and that it does not reflect reasoned decision-making. While NYISO asserts that the requirement to distribute withdrawal penalties to remaining interconnection customers facing net increases of costs for shared network upgrades will complicate and slow the interconnection study process, we continue to find that the benefits of reducing the harm of such cost shifts outweighs the potential for added complexity. We continue to maintain that incorporating such a mechanism will decrease the risk that very large cost shifts due to withdrawals result in cascading withdrawals,[362] which in turn create substantial uncertainty, cost, and inefficiency for the interconnection study process. Moreover, the tracking of withdrawal penalty funds is necessary to ensure

[361] Clean Energy Associations Rehearing Request at 74-75.

[362] Order No. 2023, 184 FERC ¶ 61,054 at P 799.

that funds related to individual interconnection customers' withdrawals are appropriately allocated. The concern of ensuring transparency to interconnection customers regarding such funds outweighs the perceived burden to transmission providers, especially because transmission providers are likely to track the impact of an interconnection customer's withdrawal regardless: this is valuable information to the transmission provider because withdrawals could lead to a study delay and accompanying penalty for the transmission provider and such information could be useful to the transmission provider in an appeal.

231. We grant NYISO's request to clarify that withdrawal penalties cannot exceed the dollar amount collected from interconnection customers that have withdrawn from the interconnection study process secured by transmission providers. As stated in section 3.7.1.2.1 of the *pro forma* LGIP, withdrawal penalty funds are collected from the cluster for the purposes of (1) funding studies conducted under the cluster study process for interconnection customers in the same cluster that have executed the LGIA or requested the LGIA to be filed unexecuted, and (2) reducing net increases, for interconnection customers in the same cluster, in interconnection customers' network upgrade cost assignment and associated financial security requirements. The total amount of funds used for (1) and (2) must not exceed the total amount of withdrawal penalty funds collected from the cluster. We accordingly modify the language in *pro forma* LGIP section 3.7.1.2.1 to reflect this clarification. Given this clarification, we need not adopt NYISO's request for additional modifications.

232. We are unpersuaded by Clean Energy Associations' request for rehearing as it pertains to the 100% increase in network upgrade costs requirement after the facilities

study phase for penalty-free withdrawal. We disagree that the thresholds for penalty-free withdrawal laid out in Order No. 2023 expose interconnection customers to unjust and unreasonable cost increases. We continue to find that the trigger thresholds are set at an amount providing sufficient room for estimates to change as the cluster evolves while limiting interconnection customer exposure to withdrawal penalties when such estimates change by a significant amount. We acknowledge that the thresholds for penalty-free withdrawal are higher at later stages of the interconnection study process, but continue to find that this structure is reasonable, given the greater harms of late-stage withdrawals and the importance of incentivizing earlier withdrawal of non-viable interconnection requests. An interconnection customer will know to factor in both the cost estimates and the potential withdrawal penalty but also the exemption trigger thresholds as it makes the business decision to proceed in the interconnection queue. Accordingly, we retain the penalty-free withdrawal threshold exemptions set forth in Order No. 2023.

233. We disagree with NYISO's and Clean Energy Associations' requests for the Commission to define materiality in the context of the withdrawal penalty exceptions in *pro forma* LGIP section 3.7.1. Consistent with the Commission's finding in Order No. 2003,[363] we find it unnecessary to revise *pro forma* LGIP section 3.7.1 to specify what constitutes a material impact on the cost or timing of any interconnection request with an equal queue position. We also note a discrepancy between the *pro forma* LGIP language

[363] Order No. 2003, 106 FERC ¶ 61,220 at P 168.

in section 3.7.1 and the withdrawal penalty framework as described in Order No. 2023. Accordingly, we revise section 3.7.1 such that there will be no withdrawal penalty assessed if the withdrawal does not have a material impact on any interconnection request in the same cluster. Withdrawal penalty funds are allocated to those interconnection customers in the same cluster as the withdrawing interconnection customer, so we find it necessary for clarity to remove the reference to lower-queued interconnection customers, as adopted in Order No. 2023. We note that the materiality of the impact caused by a withdrawal could depend on the factors pertaining to the individual project (size, location, type) and other projects in the cluster (proximity to the withdrawing project, size of remaining projects relative to the withdrawing project), as well as the configuration of the transmission provider's transmission system. Therefore, we leave it to the transmission provider to make this determination of materiality. We are also unpersuaded by Clean Energy Associations' request for clarification that, when a transmission provider makes a materiality determination after a withdrawal regarding a delay in timing or increase in cost of network upgrades of other proposed generating facilities in the same cluster, such determination or other information associated therewith be made available along with and at the same time as the penalty revenue posting required by revised *pro forma* LGIP section 3.7.1.2. The benefit to the interconnection customers would not outweigh the substantial burden on transmission providers to detail the materiality determination for each individual withdrawal.

234. In response to WIRES, we clarify that using the Order No. 2023 withdrawal penalties to offset financial security payment amounts provided to the transmission

provider by the remaining interconnection customers would not reduce the total network upgrade cost that a transmission provider places in rate base. When the Order No. 2023 withdrawal penalties are used to offset financial security payment amounts, some network upgrade payments will come from the withdrawal penalties and some will come from the remaining interconnection customer, but the fact that a portion of the network upgrade payment comes from withdrawal penalties does not reduce the total network upgrade cost that a transmission provider places in rate base. Order No. 2023 provides that an interconnection customer's reduced network upgrade cost obligation will be effectuated by the transmission provider amending the interconnection customer's LGIA or reducing the network upgrade cost estimate provided to the interconnection customer if there is not yet an LGIA to provide a reduction in network upgrade cost assignment and an associated reduction in the interconnection customer's financial security requirement.[364] Given this clarification, we believe it unnecessary to address WIRES' alternative request for clarification that these withdrawal penalty disbursements must be distributed as cash payments. For the same reasons, we believe it unnecessary to address WIRES' alternative request for rehearing regarding notice of the new withdrawal penalty regime.

235. We are persuaded by NYISO's request to clarify the timeframes for the specific withdrawal penalty application process steps. The transmission provider is required to

[364] Order No. 2023, 184 FERC ¶ 61,054 at P 806.

complete the following steps within 30 calendar days of all interconnection customers in the cluster having either withdrawn or been deemed withdrawn, executed an LGIA, or requested the LGIA be filed unexecuted: (1) apply a refund to invoiced study costs for interconnection customers that remain in the cluster (per *pro forma* LGIP section 3.7.1.2.1); (2) determine whether withdrawn interconnection customers, at any point in the cluster study process, shared cost assignment for one or more network upgrades with any remaining interconnection customers in the same cluster *(*per *pro forma* LGIP section 3.7.1.2.2); (3) where the withdrawn interconnection customers have shared a cost assignment for one or more network upgrades with any remaining interconnection customers in the same cluster, transmission provider is to perform the calculations described in *pro forma* LGIP subsection 3.7.1.2.3(a) to determine the reduction in the remaining interconnection customers' net increase in network upgrade costs and associated financial security requirements *(*per *pro forma* LGIP section 3.7.1.2.4); and (4) where applicable, provide interconnection customers with an amended LGIA that provides the reduction in network upgrade cost assignment and associated reduction to the interconnection customer's financial security requirements *(*per *pro forma* LGIP section 3.7.1.2.4).

236. Where the transmission provider conducts step (2) above and determines that a withdrawn interconnection customer did not share cost assignments with remaining interconnection customers or cause a net increase in the cost assignment for any remaining interconnection customers in the same cluster, the transmission provider must return any remaining withdrawal penalty funds to the withdrawn interconnection

customer(s) within 60 calendar days of all interconnection customers in the cluster having either withdrawn or been deemed withdrawn, executed an LGIA, or requested the LGIA be filed unexecuted (per *pro forma* LGIP section 3.7.1.2.2). The 60-day period here allows the transmission provider time to focus on steps 1-4 in the previous paragraph before it must disburse funds to withdrawn interconnection customers.

237. We grant NYISO's request to clarify that *pro forma* LGIP section 3.7.1.2.1 requires the transmission provider to use the collected withdrawal penalties first to fund all the interconnection studies conducted for interconnection customers in the cluster—including cluster restudies and the interconnection facilities study. We accordingly modify the language in section 3.7.1.2.1 of the *pro forma* LGIP to be inclusive of these studies.

238. We grant NYISO's request to clarify the difference between the requirements to return withdrawal penalty funds to withdrawn interconnection customers in *pro forma* LGIP sections 3.7.1.2.2 and 3.7.1.2.5. *Pro forma* LGIP section 3.7.1.2.2 establishes that, where the interconnection customer's withdrawal *does not cause* a net increase in the shared cost assignment for any remaining interconnection customers' network upgrades in the same cluster, the withdrawal penalty funds returned to the withdrawn interconnection customers will be net of the amount used to pay the study costs for interconnection customers in the same cluster that did not withdraw. *Pro forma* LGIP section 3.7.1.2.5 addresses the case where any interconnection customer's withdrawal *does cause* a net increase in the shared cost assignment for any remaining interconnection customers' network upgrades. In this case, the withdrawal penalty funds returned to the

withdrawn interconnection customers will be net of both the study costs and the amount paid to offset net increases in shared cost assignments for network upgrades.

239. We are not persuaded by NYISO's request for an expanded version of the withdrawal penalty example included in Order No. 2023 because another purely illustrative example is unnecessary.

240. We agree with Clean Energy Associations and Shell regarding the withdrawal penalty contained in *pro forma* LGIP sections 5.1.1.1 and 5.1.1.2. We agree that it is necessary to distinguish the transition process withdrawal penalty of nine times study costs from the withdrawal penalty assessed under the normal cluster study process which is calculated based on *pro forma* LGIP section 3.7.1. Accordingly, we modify section 1 to define "transitional withdrawal penalty,"[365] and modify *pro forma* LGIP sections 5.1.1, 5.1.1.1, and 5.1.1.2 to reference the transitional withdrawal penalty.

241. We grant Clean Energy Associations' and Shell's requests for clarification of whether the term "study cost," as used in the calculation of the transitional withdrawal penalty, includes the cost of the entire cluster study or the study cost that has been

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[365] Transitional Withdrawal Penalty shall mean the penalty assessed by Transmission Provider to an Interconnection Customer that has entered the Transitional Cluster Study or Transitional Serial Interconnection Facilities Study and chooses to withdraw or is deemed withdrawn from Transmission Provider's interconnection queue or whose Generating Facility does not otherwise reach Commercial Operation. The calculation of the Transitional Withdrawal Penalty is set forth in sections 5.1.1.1 and 5.1.1.2 of this LGIP.

assigned to the withdrawing interconnection customer up to the point of withdrawal, inclusive of any costs incurred in the transition process under the transitional serial facilities study or transitional cluster study. We clarify that study costs include all costs incurred by the interconnection customer in the transmission provider's existing interconnection study process prior to the Commission-approved effective date of the transmission provider's Order No. 2023 compliance filing. For example, where a transmission provider was operating under the previous *pro forma* LGIP, the study costs would include the amount incurred by the interconnection customer for the completion of its interconnection feasibility study, interconnection system impact study, and the interconnection facilities study. As explained in Order No. 2023 and *pro forma* LGIP sections 5.1.1.1 and 5.1.1.2, study costs for purposes of calculating this withdrawal penalty will also include any costs incurred in the transition process under the transitional serial facilities study or transitional cluster study.

242. In response to Clean Energy Associations, we decline to clarify that the penalty-free withdrawal thresholds will apply to transitional projects. We find it important to the goal of reducing speculative behavior that any interconnection customer that enters the transition process is required to pay a penalty if it does not reach commercial operation. We note that interconnection customers can elect not to enter the transition process and instead enter the transmission provider's first annual cluster study where the withdrawal penalty exemptions will be applied. We also note that the penalty-free exemption provisions are more appropriate for the normal cluster study process where the

withdrawal penalty could be much higher than the nine times study costs amount assessed as the transitional withdrawal penalty.

243. We also add minor, clarifying edits to *pro forma* LGIP section 3.7.1 and 3.7.1.1(a) to reference cluster restudies, where appropriate.

6. Transition Process

a. Order No. 2023 Requirements

244. In Order No. 2023, the Commission established a transition process for moving to the first-ready, first-served cluster study process.[366] The Commission required transmission providers to offer existing interconnection customers up to three transition options, depending on which phase of the serial study process their interconnection requests are in: (1) a transitional serial study, (2) a transitional cluster study, and (3) withdrawal from the interconnection queue without penalty.

245. The Commission agreed with commenters that, given current interconnection queue backlogs in multiple regions, it is essential that the Commission craft a transition process to give interconnection customers, along with other market participants time to adjust to new processes and requirements.[367] The Commission explained that the transition process will create an efficient way to prioritize and process interconnection

[366] Order No. 2023, 184 FERC ¶ 61,054 at P 855.

[367] *Id.* P 856.

requests based on how far they have advanced through the interconnection process and their level of commercial readiness.

246. The Commission required transmission providers to offer the transitional serial study option to interconnection customers that have been tendered a facilities study agreement, even if they have not yet executed the agreement, as of 30 calendar days after the filing date of the transmission provider's initial filing to comply with Order No. 2023.[368] Similarly, the Commission required transmission providers to offer the transitional cluster study option to interconnection customers with an assigned queue position as of 30 calendar days after the filing date of the transmission provider's initial filing to comply with Order No. 2023. The Commission found that the adopted transition process appropriately balances the need to move expeditiously to the new cluster study process with the need to respect the investments and expectations of interconnection customers at an advanced stage in the existing interconnection process.[369]

247. The Commission stated that interconnection customers will have 120 calendar days after the publication of Order No. 2023 to achieve eligibility for the transition process (90 calendar days for transmission providers to submit compliance filings, plus the 30-calendar day eligibility cut-off).[370] The Commission also required the

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[368] *Id.* P 855.

[369] *Id.* P 856.

[370] *Id.* P 866. On rehearing, the Commission extended the compliance date to 150 calendar days of the effective date of the final rule but did not adjust the transition date.

transmission provider to tender the appropriate transitional study agreements to eligible interconnection customers no later than the Commission-approved effective date of the transmission provider's compliance filing with Order No. 2023.[371] The Commission stated that this will help ensure that interconnection customers are informed about their eligibility for the transitional studies (including the associated requirements and deadlines) in a timely manner.

248. The Commission also adopted transition process deposits, withdrawal penalties, and deadlines.[372] The Commission required that: (1) interconnection customers electing the transitional serial study must provide a deposit equal to 100% of the interconnection facility and network upgrade costs allocated to the interconnection customer in the system impact study; and (2) interconnection customers electing the transitional cluster study must provide a deposit equal to $5 million.[373] The Commission explained that the transition process is anticipated to involve more interconnection customers than standard annual clusters (due to existing interconnection queue backlogs), which greatly increases the risk of late-stage withdrawals. The Commission found that adopting deposit requirements for the transitional studies higher than those adopted for the cluster study

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Improvements to Generator Interconnection Procs. & Agreements, 185 FERC ¶ 61,063 (2023).

[371] Order No. 2023, 184 FERC ¶ 61,054 at P 867.

[372] *Id.* P 855.

[373] *Id.* P 859.

process will help to ensure that the transitional process is used by interconnection customers that intend to proceed with their proposed generating facilities. In response to arguments that the proposed deposit amounts are arbitrary and/or excessive, the Commission explained that the deposit amounts are "based on expected costs to the extent practicable and that only a portion of these deposits are ultimately at-risk."[374] The Commission noted that the withdrawal penalty is set at nine times the study cost with the remainder of deposits to be refunded. The Commission also noted that existing interconnection customers that are currently in an interconnection queue can opt to withdraw their interconnection requests without penalty and wait for the first standard cluster study with associated lower deposit requirements.

249. In response to EDF Renewable's claim that the transitional serial study deposit conflicts with the Commission's intentions in Order No. 2003,[375] the Commission found that the heightened need to avoid late-stage withdrawals during the transition process—a need that the Commission could not have anticipated in Order No. 2003—warrants the use of this requirement for the transitional serial study.[376]

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[374] *Id.*

[375] EDF Renewables Initial Comments at 9 (stating that Order No. 2003 specifically rejected requiring interconnection customers, at the time of execution of the transitional serial study agreement, to provide a deposit equal to 100% of the interconnection facility and network upgrade costs allocated to them in the system impact study report in favor of requiring security for discrete portions of these costs).

[376] Order No. 2023, 184 FERC ¶ 61,054 at P 859.

250. As noted earlier, the Commission established a transitional study withdrawal penalty equaling nine times the study cost.[377] The Commission explained that the withdrawal penalty plays an important role in deterring speculative interconnection requests in both the standard cluster study and the transition process. The Commission disagreed with commenters that call for a lower penalty to apply during the transition process, given that the risk of withdrawals is heightened during the transition process. The Commission noted that, regardless of the cause, a withdrawal may cause harm to other interconnection customers in the transition process and therefore found it appropriate to impose penalties on those that choose to withdraw, notwithstanding that withdrawal may at times be due to circumstances beyond the interconnection customer's control. The Commission explained that interconnection customers will bear the risk of withdrawal penalties and should consider that risk in deciding whether to elect to join a transition process.

b. Requests for Rehearing and Clarification

251. Clean Energy Associations ask that the Commission grant rehearing to revise the deposit amounts required for customers entering the transitional serial or transitional cluster process, and revise the withdrawal penalty amounts for customers that proceed through the transitional process.[378] Clean Energy Associations argue that the

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[377] *Id.* P 860.

[378] Clean Energy Associations Rehearing Request at 36-39.

Commission acted arbitrarily and capriciously by imposing excessive and arbitrary deposit requirements and withdrawal penalties on interconnection customers electing to proceed through transitional studies. Clean Energy Associations assert that the Commission ignored substantial record evidence, failed to "articulate a rational connection between the facts found and the choice made," and failed to respond meaningfully to the arguments of commenters.[379]

252. Clean Energy Associations argue that the Commission failed to provide any record evidence to support the $5 million deposit amount required for an interconnection customer to proceed to a transitional cluster study, nor did it meaningfully respond to contrary evidence that the transitional serial study deposit would be unduly burdensome or have unintended consequences that frustrate the purpose of Order No. 2023.[380] Clean Energy Associations argue that there is no discussion in the record of how Order No. 2023's calculus relates to expected costs, nor practical limitations to more accurately

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[379] *Id.* at 36 (citing *Motor Vehicle Manufacturers*, 463 U.S. at 43 (action arbitrary and capricious if agency "failed to consider an important aspect of the problem" or "offered an explanation for its decision that runs counter to the evidence before the agency"); *Allentown Mack Sales & Serv., Inc. v. Nat'l Labor Relations Bd.*, 522 U.S. 359 (1998); *Del. Div. of Pub. Advoc. v. FERC*, 3 F.4th 461, at 469 (D.C. Cir. 2021) (*Delaware Public Advocate*); *Pub. Utils. Comm'n of Cal. v. FERC*, 462 F.3d 1027, 1051 (9th Cir. 2006); *PPL Wallingford Energy v. FERC*, 419 F.3d 1134, 1198 (D.C. Cir. 2005); *N. States Power Co. v. FERC*, 30 F.3d 177, 180 (D.C. Cir. 1994)).

[380] *Id.* at 37 (citing Advanced Energy Economy Initial Comments at 19-20; Clean Energy Associations Initial Comments at 43; CREA and NewSun Energy Initial Comments at 81; EDF Renewables Initial Comments at 9; Pine Gate Initial Comments at 36).

estimating those costs.[381] Clean Energy Associations assert that the $5 million amount originates from a single utility's claim that $5 million is consistent with interconnection costs on its system, and not from Commission reasoning or evidence that this figure is appropriate on a *pro forma* basis. Clean Energy Associations argue that establishment of a flat deposit amount is inconsistent with the Commission's own determination elsewhere in Order No. 2023, where the Commission found that study deposits under the new cluster study process should differ based on project size and estimated network upgrade costs, depending on the stage of the process.[382] Clean Energy Associations also contend that this deposit requirement could become a barrier to entry for smaller projects that do not have the ability to put up a $5 million deposit, and for which a $5 million deposit would have little linkage to actual upgrade costs or project economics, which the Commission acknowledged was the appropriate driver for deposit amounts.

253. Clean Energy Associations also argue that the Commission inappropriately disregarded EDF Renewable's concern that Order No. 2023 conflicts with Order No. 2003, which specifically rejected a proposal to require customers to post security up front for the total cost of such facilities.[383] Clean Energy Associations note that the Commission justifies its alternative approach due to the heightened need to avoid late-

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[381] *Id.* at 38-39 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 859; *Del. Div. of Pub. Advoc.*, 3 F.4th at 469).

[382] *Id.* (citing Order No. 2023, 184 FERC ¶ 61,054 at PP 502, 690).

[383] *Id.* at 39 (citing Order No. 2003, 104 FERC ¶ 61,103 at PP 1, 171, 596).

stage withdrawals during the transition process, but argues that the Commission failed to provide substantial evidence to further explain or support this heightened need.

254. Clean Energy Associations request rehearing of the transition process set forth in revised *pro forma* LGIP section 5.1.1.2 because they argue that the scope of the transition cluster group established by the Commission is too broad.[384] Clean Energy Associations assert that the Commission unjustly and unreasonably groups customers that submitted interconnection requests on the eve of the transmission providers' Order No. 2023 compliance filing with customers that have been pending in the queue for substantially longer periods of time.[385] Clean Energy Associations state that recently-accepted queue reform transmission procedures have commonly implemented a "cut-off" date for transitional study entry that coincides with notice of the relevant reforms.[386] Clean Energy Associations argue that this prevents "mixing" future interconnection customers' applications with existing interconnection customers relative to transitional studies. Clean Energy Associations argue that treating new and future interconnection customers

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[384] *Id.* at 44 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1583).

[385] *Id.* at 44-45 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 6 (Comm'r Christie, Concurring)).

[386] *Id.* at 45 (noting PJM's recently implemented generator interconnection process tariff reforms, with a transition process that made projects assigned queue positions in the existing interconnection queue between April 1, 2018 through September 30, 2021, subject to "Transition Period Rules," requiring a "retool" study and commercial readiness deposits and site control evidence) (citing *PJM Interconnection, L.L.C.,* 181 FERC ¶ 61,162 at PP 1, 8, 31, *reh'g denied by operation of law,* 182 FERC ¶ 62,055, *order addressing arguments raised on reh'g,* 184 FERC ¶ 61,006 (2023)).

the same as customers that have been waiting for an extended period of time to begin their studies is unjust and unreasonable.

255. Clean Energy Associations and Shell request that the Commission revise the transitional cluster study process and sections 5.1.1.2 to set the July 28, 2023 issuance date of Order No. 2023 as the date of eligibility for transitional cluster study participation.[387] Shell asserts that *pro forma* LGIP section 5.1.1.2 is too broad because it treats new and future generator interconnection customers the same as interconnection customers that may have been waiting in the queue for years.[388] Shell contends that the regulatory expectations of existing and new customers subject to queue reform are fundamentally different because existing customers submitted their requests under one queue structure and new customers will submit their requests with reasonable notice of the new structure. Shell argues that allowing the transitional cluster study to remain open for several months beyond the Order No. 2023 issuance date may provide an opportunity for interconnection customers to develop strategies that will overwhelm specific transitional cluster studies with unnecessarily high volumes of new interconnection requests, which may enable them to alter the progress of the transitional cluster study by strategically withdrawing a specific subset of these generator interconnection requests at

[387] *Id.* at 46; Shell Rehearing Request at 6.

[388] Shell Rehearing Request at 4-5.

each decision point.[389] Shell asserts that this is akin to the queue speculation the Commission is trying to discourage pursuant to Order No. 2023. Shell states that this may allow new interconnection requests to manipulate the transitional cluster study process, thereby triggering multiple restudies until they achieve a result that favors their projects.

256. Clean Energy Associations also ask the Commission to clarify that any interconnection requests submitted after the Order No. 2023 issuance date will be placed in the first cluster study that follows the transitional cluster study.[390] Shell states that compliance filings that include interconnection requests in a transitional cluster study queued after the deadline should explain why their proposed cut-off date for the transitional cluster study will advance the goals of facilitating the reduction of queue backlogs in a more efficient and cost-effective manner.[391]

c. Determination

257. We are unpersuaded by Clean Energy Associations' request to revise the deposit amounts required for customers entering the transitional serial or transitional cluster process, and to revise the withdrawal penalty amounts for customers that proceed through the transitional process. As the Commission explained in Order No. 2023, the transition

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[389] *Id.* at 6-7.

[390] Clean Energy Associations Rehearing Request at 46.

[391] Shell Rehearing Request at 7.

process is anticipated to involve more interconnection customers than standard annual clusters due to existing interconnection queue backlogs.[392] With more interconnection customers than normal, there is an increased risk of late-stage withdrawals leading to restudies and delays that would further frustrate the goals of Order No. 2023. We continue to find that adopting deposit requirements for the transition studies that are higher than those adopted for the cluster study process will help to lower the risk of restudies and delays resulting from late-stage withdrawals from the transition studies. This requirement is necessary to ensure that the transition process is used by interconnection customers that accept the heightened financial risks and nevertheless remain confident in the commercial viability of their proposed generating facilities.

258. We further note that the Commission explained in Order No. 2023 that the transitional deposit amounts are based on expected costs "to the extent practicable."[393] In the case of the transitional cluster study, it is not practical to create deposits based on individualized estimates of network upgrade costs because, unlike the transitional serial study, projects entering the transitional cluster study are not required to have any previous study results on which such estimates could be based. Therefore, the Commission reasonably relied upon available evidence as to general network upgrade

[392] Order No. 2023, 184 FERC ¶ 61,054 at P 859.

[393] *Id.* P 860.

cost estimates.[394] We further note that no comments in the record provided a more persuasive estimate.

259. Additionally, we disagree with Clean Energy Associations' argument that a flat deposit is inconsistent with other Order No. 2023 requirements because we find that the need for strict transition requirements warrants the use of a flat deposit. Furthermore, as the Commission explained, only a portion of these deposits are ultimately at risk, and there is no withdrawal penalty if existing interconnection customers currently in the queue opt to withdraw and wait for the first standard cluster study with associated lower deposit requirements rather than proceed in the transitional cluster.[395] For similar reasons, we also decline to modify the withdrawal penalty amount. In light of the heightened risk of withdrawals leading to restudies and delays during the transition process, we disagree with Clean Energy Associations' argument that the withdrawal penalty is excessive and arbitrary.

260. We are not persuaded by Clean Energy Associations' and Shell's calls to set an earlier cut-off date, the issuance date of Order No. 2023, as the date for eligibility for

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[394] *See* Pub. Serv. Co. of Colo., Transmittal Letter, Docket No. ER19-2774-000, at 86-87 (filed Sept. 9, 2019) (explaining that $5 million is "likely on the low end" of estimated network upgrade costs that may be allocated to any individual interconnection customer); *Pub. Serv. Co. of Colo.*, 169 FERC ¶ 61,182, at P 65 n.83 (2019) (approving transitional cluster study deposit at $5 million); *Tri-State Generation & Transmission Ass'n, Inc.*, 173 FERC ¶ 61,015, at PP 19, 56 (2020) (same); *Tri-State Generation & Transmission Ass'n, Inc.,* 174 FERC ¶ 61,021, at P 19 (2021) (same).

[395] Order No. 2023, 184 FERC ¶ 61,054 at P 859.

transitional cluster study participation. Clean Energy Associations and Shell argue that an earlier cut-off date would be fair to those generators who have been waiting in interconnection queues for years and submitted their interconnection request under a different queue structure. However, the fact that more recent interconnection requests may be included in the transitional cluster does not in and of itself render the eligibility cut-off date unjust and unreasonable. As the Commission has stated in multiple queue reform proceedings, "any cut-off date inevitably will [exclude certain interconnection customers]."[396] Likewise, the inverse of this statement holds true: any cut-off date inevitably will include certain interconnection customers. The Commission's decision to set the eligibility cut-off date as 30 calendar days after the filing date of the transmission provider's initial compliance filing was reasonable.

261. Additionally, Commission precedent does not require a certain cluster size, nor do Clean Energy Associations and Shell provide evidence to suggest that the size of the transitional cluster would be unworkable. Rather, because there are stricter requirements to join the transitional cluster than those adopted for the cluster study process,[397] it is unlikely that non-ready projects would be able to join the transitional cluster. Furthermore, due to existing interconnection queue backlogs, the Commission anticipated

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[396] *PJM Interconnection, L.L.C.*, 181 FERC ¶ 61,162 at P 60; *Tri-State Generation & Transmission Ass'n, Inc*, 175 FERC ¶ 61,128, at P 14 (2021); *PacifiCorp*, 173 FERC ¶ 61,016, at P 25 (2020).

[397] *Compare pro forma* LGIP section 5.1.1.2 (Transitional Cluster Study) *and* section 3.4.2 (Initiating an Interconnection Request).

that the transition process will involve more interconnection customers than standard annual clusters and established the transition date along with the accompanying requirements to enter the transition with this knowledge in mind. The alternative, moving the eligibility date earlier, would simply shift interconnection customers into the first cluster following the transitional cluster. We lack a basis in the record to conclude, as Clean Energy Associations and Shell appear to argue, that a somewhat larger transitional cluster is not just and reasonable, but a somewhat larger post-transition cluster would be just and reasonable.

262. We are also unpersuaded by Shell's assertion that the current eligibility cut-off date could lead to a queue rush. Such a concern is speculative. We reiterate that the higher deposit requirements for the transitional cluster study process than those adopted for the non-transitional cluster study process helps ensure that the transitional process is used by interconnection customers that intend to proceed with their proposed generating facilities.

263. Lastly, we add definitions to the *pro forma* LGIP for the terms "Transitional Cluster Study Agreement" and "Transitional Serial Interconnection Facilities Study Agreement."

D. Reforms to Increase the Speed of Interconnection Queue Processing

1. Elimination of Reasonable Efforts Standard and Implementation of a Replacement Rate

a. Order No. 2023 Requirements

264. In Order No. 2023, the Commission revised sections 2.2, 3.5.4(i), 7.4, 8.3, and Attachment A to Appendix 3 (formerly Appendix 4) of the *pro forma* LGIP to eliminate the reasonable efforts standard for conducting cluster studies, cluster restudies, facilities studies, and affected system studies by the tariff-specified deadlines.[398] The Commission added new section 3.9 to the *pro forma* LGIP to implement a study delay penalty structure. Specifically, delays of cluster studies beyond the tariff-specified deadline will incur a penalty of $1,000 per business day; delays of cluster restudies beyond the tariff-specified deadline will incur a penalty of $2,000 per business day; delays of affected system studies beyond the tariff-specified deadline will incur a penalty of $2,000 per business day; and delays of facilities studies beyond the tariff-specified deadline will incur a penalty of $2,500 per business day. The Commission explained that, among other things, these penalty amounts are intended to incentivize transmission providers to meet study deadlines and that the structure of increasing penalties reflects the progressively greater harm caused by delayed studies at later interconnection stages.[399]

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[398] Order No. 2023, 184 FERC ¶ 61,054 at P 962.

[399] *Id.* PP 974-978.

265. The Commission also specified that the study delay penalty regime contains the following safeguards for transmission providers: (1) no study delay penalties will be assessed until the third cluster study cycle (including any transitional cluster study cycle, but not transitional serial studies) after the Commission-approved effective date of the transmission provider's filing in compliance with Order No. 2023; (2) there will be a 10-business day grace period, such that no study delay penalties will be assessed for a study that is delayed by 10 business days or fewer; (3) deadlines may be extended for a particular study by 30 business days by mutual agreement of the transmission provider and all interconnection customers with interconnection requests in the relevant study; (4) study delay penalties will be capped at 100% of the initial study deposits received for all of the interconnection requests in the relevant study; and (5) transmission providers will have the ability to appeal any study delay penalties to the Commission, with the Commission determining whether good cause exists to grant the relief requested on appeal.[400]

266. The Commission further included the following features in the study delay penalty structure: (1) transmission providers must distribute study delay penalties to interconnection customers in the relevant study that did not withdraw, or were not deemed withdrawn, from the interconnection queue before the missed study deadline on a pro rata per interconnection request basis to offset their study costs; (2) non-RTO/ISO

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[400] *Id.* P 972.

transmission providers and transmission-owning members of RTOs/ISOs may not recover study delay penalties through transmission rates; (3) RTOs/ISOs may submit an FPA section 205 filing to propose a default structure for recovering study delay penalties and/or to recover the costs of any specific study delay penalties;[401] and (4) transmission providers must post quarterly on their OASIS or other publicly accessible website (a) the total amount of study delay penalties from the previous reporting quarter and (b) the highest study delay penalty paid to a single interconnection customer in the previous reporting quarter.[402] The Commission also added new section (f)(1)(ii) to 18 CFR § 35.28(f)(1) to specify that any public utility that conducts interconnection studies shall be subject to and eligible to appeal penalties following that public utility's failure to complete an interconnection study by the appropriate deadline.[403]

267. The Commission explained that the lengthy interconnection study delays and interconnection queue backlogs throughout the country support a conclusion that the reasonable efforts standard does not provide an adequate incentive for transmission providers to complete interconnection studies on time.[404] The Commission stated that

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[401] The typical standard of review under FPA section 205 would apply to these filings: i.e., the filer must show that any proposal to recover study delay penalties is just, reasonable, and not unduly discriminatory or preferential. *See* 16 U.S.C. § 824d.

[402] Order No. 2023, 184 FERC ¶ 61,054 at P 963.

[403] *Id.* P 995.

[404] *Id.* P 966.

there is every reason to believe that many of the factors contributing to significant interconnection queue backlogs and delay—including the rapidly changing resource mix, market forces, and emerging technologies—will persist. The Commission explained that the reasonable efforts standard worsens current-day challenges, as it fails to ensure that transmission providers are keeping pace with the changing and complex dynamics of today's interconnection queues.[405] Therefore, in response to those ongoing challenges and based on the record, the Commission found that the elimination of the reasonable efforts standard and its replacement with firm deadlines and penalties are needed to remedy unjust and unreasonable rates and ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner.[406]

268. The Commission noted that its conclusions were not based on a finding that transmission providers have necessarily acted in bad faith or that their actions are the sole reason for the queue delays.[407] The Commission explained that it adopted numerous other reforms to appropriately incentivize interconnection customers to help reduce interconnection delays that may result from their conduct. However, the Commission found that the elimination of the reasonable efforts standard and the adoption of firm

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[405] *Id.* P 967.

[406] *Id.* P 968.

[407] *Id.* P 966.

deadlines and penalties for late studies are needed to create an incentive for transmission providers, which will help reduce interconnection delays and ensure that Commission-jurisdictional rates are just, reasonable, and not unduly discriminatory or preferential. The Commission further found that distribution of these penalties to interconnection customers in the relevant studies was appropriate as a means of offsetting these customers' study costs. The Commission further explained that the study delay penalty regime balances the harm to interconnection customers of interconnection study delays and the associated need to incentivize transmission providers to timely complete interconnection studies with the burdens on transmission providers of conducting interconnection studies and potentially facing penalties for delays, including those that may be caused or exacerbated by factors beyond their control.[408]

269. As noted above, the Commission adopted a process for transmission providers to appeal any study delay penalties they incur.[409] The Commission explained that any such appeal must be filed no later than 45 calendar days after the late study has been completed. The Commission stated that it will evaluate whether good cause exists to grant relief from the study delay penalty and will issue an order granting or denying relief. The Commission noted that in evaluating whether there is good cause to grant such relief, the Commission may consider, among other factors: (1) extenuating

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[408] *Id.* P 972.

[409] *Id.* P 987.

circumstances outside the transmission provider's control, such as delays in affected system study results; (2) efforts of the transmission provider to mitigate delays; and (3) the extent to which the transmission provider has proposed process enhancements either in the stakeholder process or at the Commission to prevent future delays. The Commission further provided that the filing of an appeal will stay the transmission providers' obligation to distribute the study delay penalty funds to interconnection customers until 45 calendar days after (1) the deadline for filing a rehearing request has ended, if no requests for rehearing of the Commission's decision on the appeal have been filed, or (2) the date that any requests for rehearing of the Commission's decision on the appeal are no longer pending before the Commission. The Commission explained that the appeals process balances the need to ensure that transmission providers have an incentive to meet interconnection study deadlines with protections to ensure that any such penalties are fair and not triggered if good cause justifies the delay.[410] The Commission further explained that the protections embedded in this appeal process address commenters' concerns that there should be adequate process and/or fact-finding before imposing a study delay penalty on transmission providers.

270. Additionally, the Commission specified that transmission providers must distribute study delay penalties to the interconnection customers and affected system interconnection customers included in the relevant study that did not withdraw, or were

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[410] *Id.* P 988.

not deemed withdrawn, from the interconnection queue before the missed study deadline.[411] The Commission explained that, unless the transmission provider files an appeal to the study penalty, the study delay penalty must be distributed no later than 45 calendar days after the late study has been completed. The Commission further specified that a study delay penalty for a delayed cluster study or cluster restudy must be distributed on a pro rata basis per interconnection request to all interconnection customers in the cluster, while a study delay penalty for a delayed facilities study must be distributed to the interconnection customer whose facilities were being studied, and a study delay penalty for a delayed affected system study must be distributed to the affected system interconnection customer(s) whose generating facility was being studied by an affected system transmission provider. The Commission provided that the study delay penalties are on a per business day basis and will be distributed equally to each delayed interconnection customer per the requirements above. The Commission explained that this distribution defrays the study costs of the interconnection customers affected by that delay.[412]

271. The Commission also declined to adopt the NOPR's proposed *force majeure* penalty exception.[413] The Commission explained that this exemption is unwarranted

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[411] *Id.* P 990.

[412] *Id.* P 991.

[413] *Id.* PP 963, 1003.

given the adoption of an appeal mechanism, which provides transmission providers the opportunity to explain to the Commission any circumstances that caused the delay, including any events that qualify as *force majeure*.[414]

b. Elimination of the Reasonable Efforts Standard

i. Requests for Rehearing

272. Many rehearing requests argue that the decision to eliminate the reasonable efforts standard is not supported by substantial record evidence.[415] They argue that the Commission failed to meet its FPA section 206 burden because the Commission failed to show that (1) this standard is causing or materially contributing to delays or (2) the elimination of this standard will increase the timely provision of interconnection service, especially given the other factors that may cause study delays.[416] NYTOs argue that Order No. 2023's observation that, under the reasonable efforts standard, interconnection studies have been delayed "conflates correlation with causation."[417] Others argue that the

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[414] *Id.* P 1003.

[415] AEP Rehearing Request at 10; Avangrid Rehearing Request at 8-9; MISO TOs Rehearing Request at 11-13; NYISO Rehearing Request at 39-40; NYTOs Rehearing Request at 15-19; PJM Rehearing Request at 30; WIRES Rehearing Request at 4-6.

[416] AEP Rehearing Request at 11-13; Avangrid Rehearing Request at 8-9, 13-14; MISO TOs Rehearing Request at 11-13; NYTOs Rehearing Request at 15-17; WIRES Rehearing Request at 4-6.

[417] NYTOs Rehearing Request at 15-17 (asserting that the Commission has not undertaken a "root cause assessment" to determine the extent to which the reasonable efforts standard causes or contributes to study delays or shown that this standard is a "material contributing cause of study delays"); *see id.* at 18-19 (noting the Commission's recognition that there are factors outside of the transmission providers' control that may

Commission failed to address the root cause of study delays—namely, the volume of interconnection requests, which they claim Order No. 2023 will increase.[418] Avangrid disputes Order No. 2023's conclusion that the other reforms adopted therein are expected to ease the burdens on transmission providers by streamlining and reducing the number of interconnection studies.[419]

273. Several of the rehearing requests assert that the Commission has not demonstrated that interconnection study delays and backlogs are connected to transmission provider actions, such as wrongdoing, incompetence, lack of appropriate incentives, bad faith, or failure to exercise due diligence.[420] SPP and ITC claim that there are already many

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contribute to delays, that timeframes for such studies have historically been treated by transmission providers as estimates, and that transmission customers may cause delays); *see also* Avangrid Rehearing Request at 8-9; Dominion Rehearing Request at 19; NYISO Rehearing Request at 40; WIRES Rehearing Request at 4-6.

[418] Avangrid Rehearing Request at 9-11; NYTOs Rehearing Request at 14; PJM Rehearing Request at 30.

[419] Avangrid Rehearing Request at 11-13 ("[T]here is scant evidence in the record that the easing of burdens will be sufficient to justify the broad imposition of arbitrary, strict, one-size-fits-all deadlines and penalties for non-attainment.").

[420] AEP Rehearing Request at 12-13; Dominion Rehearing Request at 18; EEI Rehearing Request at 4-7 (noting that the Commission identifies other factors as contributing to such delays and backlogs and has never found a transmission provider at fault for delays in the interconnection process); ITC Rehearing Request at 5; PacifiCorp Rehearing Request at 4-7 (noting that the Commission confirmed that it was not finding that transmission providers necessarily acted in bad faith or were the sole reason for queue delays); SPP Rehearing Request at 5-6 (noting that the Commission has never found a transmission provider to have violated the reasonable efforts standard, and commenters did not provide evidence that transmission providers have failed to use reasonable efforts).

strong incentives to timely perform interconnection studies and the record does not contain the necessary support to conclude that a lack of incentives, as opposed to various other factors outside of transmission providers' control, are the cause for interconnection queue backlogs or study delays.[421] Many rehearing requests detail numerous factors contributing to delays and backlogs that they assert are outside of the transmission provider's control (e.g., the volume of interconnection requests, complexity of studies, staffing shortages, the shortage of qualified engineers, withdrawals triggering the need for restudies, delayed data from interconnection customers, affected system coordination, a rapidly changing resource mix, market forces, and emerging technologies) and argue that these conditions will persist, such that study delay penalties on transmission providers cannot be effective and are unsupported.[422]

274. AEP, EEI, and MISO TOs contend that the Commission's elimination of the reasonable efforts standard and its replacement with the deadline and penalty framework is based on notions of fairness or equity between transmission providers and interconnection customers, but they contend that this is an inadequate basis for reform.[423]

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[421] ITC Rehearing Request at 6; SPP Rehearing Request at 6-7.

[422] Avangrid Rehearing Request at 4-5, 12-13; Dominion Rehearing Request at 19-22; MISO TOs Rehearing Request at 14; PacifiCorp Rehearing Request at 11-13; SPP Rehearing Request at 6-7. Dominion also asserts that Order No. 2023 will increase demand for qualified engineers, such that hiring additional staff may not be feasible. Dominion Rehearing Request at 20-21.

[423] AEP Rehearing Request at 11-12; EEI Rehearing Request at 5, 7 (asserting that the Commission eliminated the reasonable efforts standard and imposed penalties to

EEI asserts that penalties assessed against transmission providers therefore cannot be effective in reducing such delays and backlogs.[424]

275. Certain rehearing requests also cite the purported benefits of the reasonable efforts standard, including the consistency of that standard with good utility practice and the flexibility afforded by that standard, urging that the reasonable efforts standard remains just and reasonable.[425] As a result, ITC argues that the "reasonable efforts" standard ensures that transmission providers treat other parties comparably to how they will protect their own interests.[426] NYTOs assert that the reasonable efforts standard is just and reasonable because each generator project and interconnection request is unique,

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"ensure that transmission providers are 'doing their part'" and to establish "a strange kind of parity in its reforms"); MISO TOs Rehearing Request at 19 (arguing that the Commission has not found bad faith on the part of transmission providers or that they are the sole reason for delays and transmission providers—unlike interconnection customers, who have control over burdens that the Commission has imposed on them—will be penalized regardless of whether they had control of the factors causing a study delay); *see also* Indicated PJM TOs Rehearing Request at 39-40 (claiming that the Commission failed to address their comments that the testimony of Chairman LeVar of the Utah Public Service Commission does not support the use of penalties as incentives).

[424] EEI Rehearing Request at 6-7.

[425] *Id.* at 8-9; Indicated PJM TOs Rehearing Request at 5-6; ITC Rehearing Request at 4; MISO TOs Rehearing Request at 8-10; NYTOs Rehearing Request at 17-20.

[426] ITC Rehearing Request at 4 (arguing that this strikes an appropriate balance between competing interests); *see also* MISO TOs Rehearing Request at 8-10 (similar argument); *id.* at 20-24 (arguing that the Commission has long recognized the need for flexibility in the study process, which reflects why a "no fault" and less flexible regime of automatic penalties is illogical, particularly given increasing workload and complexity of interconnection studies).

such that flexibility is warranted in the face of the challenges posed by the study process, the uniqueness of each study request, mounting volumes of such requests, and because delays in that process may not be the fault of transmission providers.[427] EEI argues that retaining the reasonable efforts standard is particularly appropriate given the other requirements of Order No. 2023, contending that flexibility will be necessary given the complexity of the cluster study process, the new technologies that must be evaluated, and new NERC standards.[428] Indicated PJM TOs assert that the reasonable efforts standard provides the optimal balance of incentives to complete studies in a timely manner and the reasonable flexibility for planners to take the time needed to ensure grid reliability will be maintained in a cost-effective manner.[429]

276. Many of the rehearing requests assert that the Commission failed to demonstrate that there are steps that transmission providers can take that will, in fact, improve the timeliness of study processes and challenge the Commission's determination that transmission providers can feasibly take steps to better ensure timely interconnection request processing, such as deploying resources, exploring administrative efficiencies, and using innovative study approaches.[430] They contend that this determination is vague,

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[427] NYTOs Rehearing Request at 17-20; *cf. id.* at 26 (asserting that rigid deadlines and penalties are inconsistent with flexibility that Order No. 2023 claims to support).

[428] EEI Rehearing Request at 8-9.

[429] Indicated PJM TOs Rehearing Request at 5-6.

[430] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 967.

poorly supported, and based on "notions that transmission providers are not sufficiently imaginative" or that they will be easily able to find and hire qualified staff and deploy automation and computing solutions in short order.[431] EEI asserts that replacing the reasonable efforts standard with deadlines and penalties cannot alter the number of requests submitted or the number of qualified individuals that can perform these studies.[432] SPP observes that qualified engineers may not want to work for transmission providers if they risk being identified as a cause of study delays that result in penalties or face potential liability.[433]

277. A number of the rehearing requests also contend that the Commission should have allowed the other reforms in Order No. 2023 to take effect before eliminating the reasonable efforts standard and adopting a structure of study deadlines and penalties.[434] AEP argues that the Commission should require transmission providers to augment the

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[431] AEP Rehearing Request at 12; EEI Rehearing Request at 6-7; MISO TOs Rehearing Request at 18 (arguing that the Commission acknowledges the shortage of qualified engineers but simply dismisses this problem); PJM Rehearing Request at 32-33; SPP Rehearing Request at 7; WIRES Rehearing Request at 7-8 (contending that these steps are "more hopeful thinking than discrete, tangible actions").

[432] EEI Rehearing Request at 6.

[433] SPP Rehearing Request at 7.

[434] AEP Rehearing Request at 15-16; Avangrid Rehearing Request at 9; EEI Rehearing Request at 5; NYTOs Rehearing Request at 17, 20-22 ("Only if the variables outside of a transmission provider's control are removed will the Commission have a sufficient evidentiary foundation to make the determinations required under Section 206 with respect to whether the Reasonable Efforts standard is unjust and unreasonable as applied in context of actual performance."); PacifiCorp Rehearing Request at 4-5.

reports required under section 3.5 of the *pro forma* LGIP and Order No. 845 to require information regarding the effects of cluster study reforms, giving the Commission real world data regarding the causes of interconnection study delays.[435]

278. Some rehearing requests also argue that the Commission relied on stale and inapposite evidence to support the elimination of the reasonable efforts standard and replacement with the deadline and penalty structure.[436] Indicated PJM TOs assert that the vast majority of study delays reflected in the Order No. 845 data for the end of 2022 came from PJM, which had recently transitioned to a first-ready, first-served cluster cycle approach effective in January 2023.[437] Indicated PJM TOs also assert that the Commission relied on a stale record from Order No. 890 as support for imposing penalties on RTOs/ISOs that fail to meet deadlines.[438] PacifiCorp similarly contends that

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[435] AEP Rehearing Request at 15-16 (setting forth AEP's view on how to augment those reports and noting other areas where reporting requirements were required and arguing that such reporting would incentivize transmission providers to perform studies in a timely fashion).

[436] Indicated PJM TOs Rehearing Request at 17-18; NYISO Rehearing Request at 39-40; PacifiCorp Rehearing Request at 7-8.

[437] Indicated PJM TOs Rehearing Request at 17-18 (arguing that, while the Commission points to deficiencies with serial study approaches, they do not apply to regions that have already implemented cluster studies and that those regions should be allowed to fully implement those new approaches).

[438] *Id.* at 18-19 (arguing that the "world has changed" in certain respects since Order No. 890 was issued, that the Order No. 890 deadlines were consistent with what was historically achievable, and the penalties in Order No. 890 were less draconian than those imposed by Order No. 2023).

the evidence the Commission relied on relates to delays in the serial study process, rather than the new cluster-based process, and "implementation of penalties, therefore, is attempting to fix a problem that has not been shown to exist."[439] NYISO argues that the data the Commission relied on concerns missed study deadlines in "RTO/ISO regions that have been contending with unprecedented numbers of new interconnection requests and/or have recently made substantial improvements to their interconnection procedures that are not reflected in earlier metrics."[440]

279. Indicated PJM TOs and NYISO also argue that the Commission failed to justify eliminating the reasonable efforts standard and imposition of deadlines and penalties through a generic rulemaking.[441] Indicated PJM TOs contend that the Commission lacked substantial evidence to make a generic finding that all existing interconnection study regimes—some of which already use the cluster study approach—are unjust and unreasonable to the extent those regimes rely on the reasonable efforts standard rather than imposing deadlines and penalties.[442] Indicated PJM TOs further assert the

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[439] PacifiCorp Rehearing Request at 7-8 (referencing *Nat'l Fuel Gas Supply Corp. v. FERC*, 468 F.3d 831, 842 (D.C. Cir. 2006) (*National Fuel*), in which the D.C. Circuit vacated the prior version of the Commission's Standards of Conduct on the basis that, inter alia, the purported record evidence FERC relied upon were rulemaking comments that did not identify any actual examples of wrongdoing).

[440] NYISO Rehearing Request at 39-40.

[441] *Id.* at 40; Indicated PJM TOs Rehearing Request at 13-17.

[442] Indicated PJM TOs Rehearing Request at 13-17.

Commission cannot use general or generic findings to enact an industry-wide solution for a problem that exists only in isolated pockets and that study delays are not sufficiently widespread to justify the Commission's generic approach.[443] NYISO argues that it is not reasoned decision-making to assume that all transmission providers need stronger incentives to timely complete studies and asserts that state regulators in New York support retaining some form of the reasonable efforts standard.[444]

ii. Determination

280. The gravity of the problem of increased interconnection queue backlogs and delays, leading to unjust and unreasonable rates, prompted the Commission in Order No. 2023 to adopt a comprehensive set of reforms to the interconnection process, including reforms to the reasonable efforts standard for the completion of interconnection studies.[445] As to that standard, the Commission explained that "interconnection queue

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[443] *Id.* at 14 (citing *S.C. Pub. Serv. Auth.*, 762 F.3d at 66-67; *Assoc. Gas*, 824 F.2d at 1019; *Wis. Gas.*, 770 F.2d at 1151, 1168); *see also id.* at 15-16 (discussing the Order No. 845 data, noting that 14 of 24 non-RTOs/ISOs experienced no study delays; as to RTOs/ISOs, CAISO experienced no study delays, SPP's data was excluded, and urging that PJM's data should also have been excluded).

[444] NYISO Rehearing Request at 40.

[445] The Commission explained in Order No. 2023 how interconnection queue backlogs result in unjust and unreasonable rates, including by hindering the development of new generation, stifling competition in wholesale electric markets, and creating uncertainty that increases costs. *See, e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at PP 3, 27-29, 37-60; *supra* section II.A. We disagree with arguments that the Commission failed to adequately explain or that the record does not support this conclusion. *See, e.g.*, Indicated PJM TOs Rehearing Request at 29-30.

backlogs and delays, and the accompanying uncertainty, are further compounded because transmission providers have limited incentive to perform interconnection studies in a timely manner."[446] Under this standard, "[t]here are no explicit consequences in the *pro forma* LGIP for transmission providers that fail to meet their study deadlines,"[447] allowing "significant discretion to the transmission providers in extending their own deadlines."[448] As the Commission found, "[t]his outcome stands in stark contrast to interconnection customers that face financial and commercial consequences due to late interconnection study results and may be considered withdrawn from the interconnection queue for failing to meet their tariff-imposed deadlines."[449]

281. The history of the Commission's action with respect to interconnection queue backlogs, and particularly interconnection study delays as a contributor to such backlogs, reflects that the Commission has taken a gradual approach to addressing these problems. In Order No. 2003, the Commission first imposed the reasonable efforts standard for the timely completion of interconnection studies, without adopting firm deadlines or a

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[446] Order No. 2023, 184 FERC ¶ 61,054 at P 50.

[447] *Id.* P 872.

[448] *Id.* P 50 (noting that despite "pervasive delays in completing interconnection studies by transmission providers . . . transmission providers have faced few, if any, consequences for failing to meet their tariff-imposed study deadlines under the reasonable efforts standard").

[449] *Id.* (concluding that the reasonable efforts standard results in rates that are unjust and unreasonable).

structure of automatic penalties for delays.[450] As the Commission observed in Order No. 2023, the reasonable efforts standard allowed transmission providers significant discretion to extend their own deadlines for the completion of interconnection studies.[451] In 2018, in Order No. 845, the Commission rejected requests to eliminate the reasonable efforts standard in favor of firm interconnection study deadlines,[452] explaining that reliance on increased reporting was a preferable approach because the "current record" did not support elimination of the reasonable efforts standard, such that doing so would be inappropriate "[a]t this time."[453] The Commission likewise decided not to implement automatic penalties for delayed studies, recognizing the extent to which delays could be caused by factors outside of transmission providers' control, instead adopting measures to "improve transparency by highlighting where interconnection study delays are most common and the causes of delays in these regions."[454] It further stated that "[t]his

[450] Order No. 2003, 104 FERC ¶ 61,103 (*pro forma* LGIP sections 7.4, 8.3).

[451] Order No. 2023, 184 FERC ¶ 61,054 at P 50.

[452] *See* Order No. 845, 163 FERC ¶ 61,043 at PP 315-21; *id.* at 322 (noting that the Commission had not proposed, in its notice of proposed rulemaking for Order No. 845, such firm study deadlines).

[453] *Id.* P 323.

[454] *Id.* P 309 ("Such information could highlight systemic problems for individual transmission providers and interconnection customers.").

information could also be useful to the Commission in determining if additional action is required to address interconnection study delays."[455]

282. Order No. 2023 reflects a determination that such additional action is required. The reforms in Order No. 845 have not eliminated the problems of interconnection queue backlogs and delayed interconnection studies. These problems have only grown, notwithstanding the Commission's previous reforms.[456]

283. Broadly speaking, the Commission's conclusion that there is a need to reform the Commission's *pro forma* interconnection procedures and agreements received overwhelming support.[457] However, as summarized above, many of the rehearing requests challenge the elimination of the reasonable efforts standard set forth in sections 2.2, 3.5.4(i), 7.4, 8.3, and Attachment A to Appendix 4 of the *pro forma* LGIP,[458] leading to the adoption of firm study deadlines, claiming that the Commission failed to meet its burden to justify this specific reform under FPA section 206.[459] Many of these rehearing

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[455] *Id.*

[456] *See, e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at PP 38-43 (summarizing evidence of growing queue backlogs and study delays as contributors to those backlogs); *supra* section II.A.3.

[457] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 30.

[458] *Id.* P 965; *see also id.* P 964 ("We adopt these reforms to remedy the unjust and unreasonable rates stemming from interconnection queue backlogs and to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner.").

[459] *See supra* section II.D.1.b.i.

requests argue that the Commission recognized that there are many factors outside the control of transmission providers that can contribute to backlogs and delays in the interconnection study process.[460] In pointing to these other factors, the rehearing requests contend that holding transmission providers to standards of performance in terms of ensuring the timely completion of interconnection studies cannot be effective to ensure the timely completion of those studies. We disagree with this argument and continue to find that the elimination of the reasonable efforts standard, and its replacement with firm study deadlines, is warranted under FPA section 206 in order to address the unjust and unreasonable rates resulting from interconnection queue delays and backlogs.

284. We are not persuaded by attempts to minimize the responsibility transmission providers have for—and the ways in which they can effectuate—the timely completion of interconnection studies. Attempts to do so fail to recognize the key role transmission providers play in timely interconnection study completion: the transmission provider conducting the study is the entity with the most control over whether the study deadline is met.[461] As the entity that conducts the study, transmission providers have control over (among other things): the resources allocated to the study process; the actual conduct of the study, e.g., the use of advanced computing or other methods to improve efficiency; coordination with interconnection customers and consultants; and providing the

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[460] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 966.

[461] *See id.* P 995.

conclusions of the study.[462] They are the entities with the most complete knowledge of the transmission system to which the generator will be interconnecting.[463] Moreover, transmission providers have significant authority to help ensure that other entities do not unduly delay the results of the interconnection study, including by deeming withdrawn the requests of interconnection customers that fail to adhere to the requirements of the *pro forma* LGIP.[464]

285. That there are other factors that may also affect the timely completion of interconnection studies—and that these factors may not be within transmission providers' control, in whole or in part—does not negate the substantial control that transmission providers have over this process. To the contrary, the existence of multiple factors influencing interconnection study timeliness favors addressing the problem of

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[462] *See, e.g.*, *id.* PP 967, 975, 1007 (noting transmission providers' ability deploy resources, hire additional personnel, invest in new software, and employ innovative study approaches).

[463] *See, e.g.*, *id.* P 201 (noting "the transmission provider's detailed knowledge of its transmission system"); Order No. 1000, 136 FERC ¶ 61,051 at P 260 ("[W]e acknowledge that incumbent transmission providers may have unique knowledge of their own transmission systems . . . .").

[464] *See pro forma* LGIP section 3.7 ("Transmission Provider shall deem the Interconnection Request to be withdrawn and shall provide written notice to Interconnection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. . . . Withdrawal shall result in the loss of Interconnection Customer's Queue Position. If an Interconnection Customer disputes the withdrawal and loss of its Queue Position, then during Dispute Resolution, Interconnection Customer's Interconnection Request is eliminated from the queue until such time that the outcome of Dispute Resolution would restore its Queue Position.").

interconnection queue backlogs from multiple angles, as with the comprehensive approach adopted in Order No. 2023. Even where multiple factors may cause or contribute to delays of interconnection studies, transmission providers are responsible for conducting the studies and their actions or inaction in doing so can cause or contribute to such delays.

286. Overall, the record reflects a problem of delayed study results contributing to interconnection queue backlogs,[465] numerous comments asserting that the reasonable efforts standard fails to ensure that transmission providers take adequate steps to ensure study timeliness,[466] and evidence of significant, growing backlogs leading to unjust and

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[465] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 40; *see also supra* P 39. While the rehearing requests generally point to factors that are beyond transmission providers' control (for instance, awaiting affected system study results or deficient information from interconnection customers), the record does not demonstrate that these are, in fact, the factors exclusively or even primarily causing study delays. *See, e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at P 50.

[466] *See, e.g.*, ACE NY Initial Comments at 11-12 ("The Commission's review of the reported Order No. 845 metrics helps to corroborate the anecdotal experiences of interconnection customers throughout the nation and demonstrates the widespread failure to complete interconnection studies consistent with the timelines identified in the *pro forma* LGIP."); CAISO Initial Comments at 25 ("The reasonable efforts standard has only served as the exception that swallows the rule of study deadlines."); EPSA Initial Comments at 10-11 (acknowledging that other factors may contribute to delays but "there have also been vast failures by Transmission Providers to process interconnection studies and provide necessary information to prospective and existing interconnection customers in a timely manner"); Invenergy Initial Comments at 29-30 ("[I]nterconnection studies are routinely delayed by several years. This is an ongoing problem and may reflect, among other things, an apparently low priority placed on adequate staffing and the lack of any accountability under the existing interconnection procedures."); Public Interest Organizations Initial Comments at 33 ("[T]he slow pace at which interconnection requests are evaluated has contributed to a ballooning of interconnection queues across

unreasonable rates. Based on our statutory obligation to remedy these unjust and unreasonable rates, and also in light of the significant level of control transmission providers exercise over the timeliness of the study process, we continue to find that the elimination of the reasonable efforts standard, and its replacement with firm study deadlines, is warranted as part of a package of comprehensive reforms to address interconnection queue delays and backlogs.

287. Consistent with this approach, we are not persuaded by arguments that the Commission conflated correlation and causation in concluding that unjust and unreasonable rates resulting from interconnection queue delays and backlogs, and delayed interconnection study completion, supported elimination of the reasonable efforts standard. In this vein, several of the rehearing requests assert that other factors, principally the volume and complexity of interconnection requests, are the real causes of such backlogs and delays, and that eliminating the reasonable efforts standard will not reduce the volume of such requests. We note, however, that Order No. 2023 did not claim that the reasonable efforts standard was the only driving force behind missed study deadlines. Order No. 2023 recognized that study delays are caused by a number of factors,[467] and adopted a comprehensive package of reforms aimed at alleviating many of

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the country. . . . [B]inding deadlines are the most effective option for ensuring that prospective generation receives timely responses to interconnection requests.").

[467] Order No. 2023, 184 FERC ¶ 61,054 at PP 40-45.

those factors from various angles.[468] The reasonable efforts standard is but one of these factors.

288. The Commission in Order No. 2023 took significant other steps to address the volume of interconnection requests including to reduce the number of speculative requests and to improve the efficiency of interconnection studies and interconnection queue processing.[469] But to the extent that factors contributing to study delays, including higher volumes or complexity of interconnection requests, are still expected to persist,[470] this does not warrant failing to pursue other available solutions to reduce such backlogs that are within transmission providers' control, especially in light of the magnitude and growth of the overall interconnection queue backlog.[471]

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[468] *See id.* PP 45-56. For example, Order No. 2023 acknowledged that affected system study delays are a key contributor to overall delays in the interconnection queue, and adopted several specific reforms aimed at standardizing and streamlining affected system study processes. *See id.* P 51. Order No. 2023 also acknowledged that speculative interconnection requests contribute to study delays and queue backlogs, and adopted commercial readiness deposits and site control requirements aimed at alleviating this factor. *See id.* PP 47-48.

[469] *See id.* P 968; *see also id.* P 966 ("Indeed, throughout this final rule, we adopt numerous reforms to appropriately incentivize interconnection customers to help reduce interconnection delays that may result from their conduct.").

[470] *See id.* P 966 ("There is every reason to believe that many of the factors contributing to significant interconnection queue backlogs and delay—including the rapidly changing resource mix, market forces, and emerging technologies— will persist.").

[471] *See id.* P 968 ("In this Section, we adopt reforms to ensure that transmission providers are doing their part as well by eliminating the reasonable efforts standard . . . . Based on the record, we find that the elimination of the reasonable efforts standard and its

289. Eliminating the reasonable efforts standard, which allowed for self-extensions of interconnection study deadlines and lacked appropriate incentives for transmission providers to help ensure study timeliness, is one such further solution.[472] In its place, the Commission has specified standards of performance in the form of deadlines, accompanied by a penalty. This penalty is a self-implementing performance incentive (subject to appropriate safeguards) that also effectively adjusts what transmission providers can charge for interconnection studies that fail to meet those standards. This incentive will help ensure that transmission providers exercise the control they have over the interconnection process as to the timely conduct of those studies,[473] and thereby contribute to alleviating the problem of interconnection queue backlogs, including to

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replacement with firm deadlines and penalties are needed to remedy unjust and unreasonable rates . . . ."); *see also id.* P 966 (reform to the reasonable efforts standard was warranted based on "ongoing challenges" that "will persist").

[472] *See id.* P 967 (noting that this standard "worsens current-day challenges" and there are "steps within transmission providers' control, from deploying transmission providers' resources to exploring administrative efficiencies and innovative study approaches, to better ensure timely processing of interconnection studies to remedy existing deficiencies").

[473] *See, e.g.*, *Cent. Hudson Gas & Elec. Corp. v. FERC*, 783 F.3d 92, 109 (2d Cir. 2015) (*Cent. Hudson*) ("FERC may permissibly rely on economic theory alone to support its conclusions so long as it has applied the relevant economic principles in a reasonable manner and adequately explained its reasoning"); *Sacramento Mun. Util. Dist. v. FERC*, 616 F.3d 520, 531 (2010) (*Sacramento*) ("[I]t was perfectly legitimate for the Commission to base its findings about the benefits of marginal loss charges on basic economic theory . . . ."); *Assoc. Gas*, 824 F.2d at 1008-09 ("Agencies do not need to conduct experiments in order to rely on the prediction that an unsupported stone will fall . . . .").

address increased volumes of interconnection requests.[474] As explained below and in Order No. 2023, these deadlines should be achievable and—where there may be factors outside of a transmission provider's control that influence whether these deadlines can be met—the Commission has adopted appropriate safeguards to account for this possibility.

290. The rehearing requests misunderstand the Commission's approach in claiming that eliminating the reasonable efforts standard and adopting firm study deadlines cannot be warranted absent findings of intentional delay, bad faith, misconduct, or a "lack of effort" by transmission providers that fails to meet the reasonable efforts standard. Such findings are not necessary predicates to concluding that the interconnection study process must occur more expeditiously in order to help remedy the problem of unjust and unreasonable rates caused by interconnection queue backlogs. Nor are they predicates to concluding that the reasonable efforts standard was not accomplishing this goal, and that

[474] Indicated PJM TOs single out one piece of evidence that the Commission cited in the NOPR as supporting use of such incentives, the testimony of Chairman LeVar of the Utah Public Service Commission, claiming that the Commission failed to address their comments that this testimony does not support the use of penalties as incentives. *See* Indicated PJM TOs Rehearing Request at 39-40; Indicated PJM TOs Initial Comments at 38. We continue to find that this testimony is one piece of evidence that supports imposing such incentives: although Chairman LeVar testified that fines are not always the best approach, he described the need to impose consequences on transmission providers as "a pretty intuitive, important step," testified that there "needs to be some clear, predictable consequence for transmission providers not meeting their obligations," and identified such consequences as "the first step in queue reform." May Joint Task Force Tr. 89:6-25.

there are steps within transmission providers' control that can facilitate the timely completion of interconnection studies on timeframes set forth in Order No. 2023.[475]

291. Similarly, we are not persuaded by arguments that the structure adopted in Order No. 2023 is disproportionate to the problems identified in that order or that study delays are not sufficiently widespread to justify adoption of penalties for study delays. As discussed above in section II.A., we find that Order No. 2023's generic finding that the existing *pro forma* interconnection procedures and agreements were unjust, unreasonable, unduly discriminatory or preferential was supported by substantial evidence. The D.C. Circuit has been clear that the Commission can rely on general findings of systemic conditions to impose an industry-wide remedy, unless the deficiencies identified exist only in isolated pockets:[476] the record here indicates that interconnection study delays are a nationwide problem, not one that exists only in isolated pockets.[477] Therefore, we continue to conclude that industry-wide reform is appropriate. Furthermore,

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[475] PacifiCorp's comparison of this case to *Nat'l Fuel Gas Supply Co. v. FERC*, 468 F.3d 831, 842 (vacating Commission standards of conduct that had been justified in part by a claimed record of abuse, where the court found no such record was apparent), is therefore not apt. *See* PacifiCorp Rehearing Request at 7. The Commission has not relied on claims of wrongdoing, bad faith, or abuse to justify the reforms in Order No. 2023, but rather acted based the substantial record that interconnection queue backlogs, driven in part by untimely interconnection studies, are resulting in unjust and unreasonable rates and transmission providers' have the ability to better ensure study timeliness.

[476] *TAPS*, 225 F.3d at 687-88; *INGAA*, 285 F.3d at 37; *S.C. Pub. Serv. Auth.*, 762 F.3d at 67.

[477] *See supra* section II.A.3.

interconnection study delays and queue backlogs are severe,[478] and we continue to find that the deadline and penalty regime adopted in Order No. 2023 is proportional to the scope of the problem.

292. It appears that, in arguing that study delays are not sufficiently widespread to justify a generically applicable incentive structure, Indicated PJM TOs misread the Order No. 845 data cited in Order No. 2023: Indicated PJM TOs state that the Commission acknowledges that at the end of 2022, 14 (of 24) non-RTO/ISO transmission providers experienced no study delays.[479] However, the Commission actually stated, and the data shows, that at the end of 2022, 14 (of 24) non-RTO/ISO transmission providers *had delayed studies* still pending at the end of the year.[480] Furthermore, of the studies completed over the course of 2022, the data indicates that 16 non-RTO transmission providers completed one or more interconnection study past the deadline.[481] As stated above in section II.A.2., we recognize that PJM's data reflects its previous, serial study process. However, even excluding both PJM and SPP, the data show that three of the four remaining RTOs/ISOs reported delayed studies at the end of 2022.[482] Moreover,

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[478] Order No. 2023, 184 FERC ¶ 61,054 at PP 38, 40, & app. B.

[479] Indicated PJM TOs Rehearing Request at 15-16.

[480] Order No. 2023, 184 FERC ¶ 61,054 at P 40 & app. B tbl. 3.

[481] *Id.*

[482] *Id.* at app. B.

although we find the data even excluding PJM and SPP's backlogs is sufficient to show that study delays are not a problem that exists only in isolated pockets, the existing interconnection study backlogs in SPP and PJM reinforce that it is imperative that these entities, too, conduct their cluster study processes in a timely fashion, as will be facilitated by firm study deadlines.[483] The data indicate that study delays are not a problem that only exists in isolated pockets.

293. We disagree with arguments that it was disproportionate or inappropriate for the Commission to make a generic finding eliminating the reasonable efforts standard and adopting firm study deadlines, given that some regions have already adopted cluster study processes and are, therefore, generally in accord with a number of other reforms adopted in Order No. 2023. The data do not indicate that cluster studies alone are sufficient to remedy interconnection queue backlogs. To the contrary, a number of transmission providers that have already adopted cluster studies still experience substantial study delays.[484] While cluster studies are a key component of the Order No. 2023 reforms, clustering alone has not proved sufficient to solve the problems the Commission identified in Order No. 2023. We conclude that the elimination of the

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[483] *See id.* P 40, app. B, tbls. 2 & 4; NOPR, 179 FERC ¶ 61,194, at app. A, tbl. 1 n.489 (noting that SPP's "normal interconnection queue processing has been modified to address its large queue backlog and transition to a new interconnection study process").

[484] Order No. 2023, 184 FERC ¶ 61,054 at P 40 (indicating that multiple transmission providers that have already adopted cluster studies—including, among others, MISO, APS, Dominion, Duke, El Paso, PNM, and PSCo—still have study delays).

reasonable efforts standard, which has not yet been adopted by any transmission providers, is an appropriate and important component of the package of reforms in Order No. 2023 to remedy study delays and queue backlogs.

294. We disagree with arguments that the Commission relied on stale data to support the elimination of the reasonable efforts standard and the adoption of deadlines and study delay penalties. It appears that these rehearing requests are premised on speculation that future data might tell a different story than the data the Commission relied upon in Order No. 2023. Such speculation about potential future data does not render current data stale.[485] Order No. 2023 relied on the most recent data available, from 2020-2022.[486] Even if this dataset is not perfect, imperfection does not amount to arbitrary decision-

[485] *See ICC v. Jersey City*, 322 U.S. 503, 514 (1944) ("Administrative consideration of evidence . . . always creates a gap between the time the record is closed and the time the administrative decision is promulgated . . . [if] litigants might demand rehearings . . . because some new circumstance has arisen . . . there would be little hope that the administrative process could ever be consummated[.]"); *Wis. Elec. Power Co. v. Costle*, 715 F.2d 323, 327 (7th Cir. 1983) (finding that the record was not stale just because it did not include data collected five days before the agency issued its decision); *Vill. of Logan v. U.S. Dep't of Interior*, 577 F. App'x 760, 770 (10th Cir. 2014) ("Defendants likewise cannot be faulted for failing to consider a study that was published after the [agency decision] was published[.]").

[486] *See* Order No. 2023, 184 FERC ¶ 61,054 at app. B (summarizing data from 2020-2022); *id.* at P 38 (citing Queued Up 2023 at 7-8). Cases in which courts have found data to be stale involve significantly older data. *See N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1086 (9th Cir. 2011) (finding that ten-year-old data was stale); *Lands Council v. Powell*, 395 F.3d 1019, 1031 (9th Cir. 2005) (finding that six-year-old data was stale).

making.[487] We also note that, for purposes of judicial review, the record consists of the information that was before the Commission *at the time* Order No. 2023 was issued.[488] Particularly given the trends of worsening queue delays and backlogs, which we have found are likely to persist in the absence of Commission action,[489] and the gravity of the problem of such delays in interconnecting new generation, the Commission was not required to wait for pending developments before issuing Order No. 2023, nor are we required to retract Order No. 2023 in order to supplement the Commission's decision with new data.[490]

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[487] *See White Stallion Energy Ctr., LLC v. EPA*, 748 F.3d 1222, 1248 (D.C. Cir. 2014) (agency's "data-collection process was reasonable, even if it may not have resulted in a perfect dataset"); *In re Polar Bear ESA Listing*, 709 F.3d 1, 13 (D.C. Cir. 2013) ("That a model is limited or imperfect is not, in itself, a reason to remand agency decisions based upon it."); *Allied Local & Reg'l Mfrs. Caucus v. EPA*, 215 F.3d 61, 71 (D.C. Cir. 2000) ("We generally defer to an agency's decision to proceed on the basis of imperfect scientific information"); *State of N.C. v. FERC*, 112 F.3d 1175, 1190 (D.C. Cir. 1997) ("The mere fact that the Commission relied on necessarily imperfect information ... does not render [its decision] arbitrary."); *Chemical Mfrs. Ass'n v. EPA*, 28 F.3d 1259, 1265 (D.C. Cir. 1994) (agency may nonetheless use model "even when faced with data indicating that it is not a perfect fit").

[488] *See Vt. Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc*., 435 U.S. 519, 554–55 (1978) (*Vt. Yankee*) (explaining that an agency decision "had to be judged by the information then available to it[.]").

[489] *See, e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at P 966.

[490] *See Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 373 (1989) ("agenc[ies] need not supplement [a decision] every time new information comes to light[.]"); *Friends of the River v. FERC*, 720 F.2d 93, 109 (D.C. Cir. 1983) ("Were we to order the Commission to reassess its decisions every time new forecasts were released, we would risk immobilizing the agency.").

295. We disagree with Indicated PJM TOs' claim that Order No. 2023 relied on the stale record from Order No. 890, even though the world has changed substantially since 2007. Order No. 2023 cited Order No. 890 as precedent reflecting that the Commission has authority to (1) implement a study delay penalty structure for RTOs/ISOs for missed tariff deadlines notwithstanding their non-profit status,[491] and (2) prohibit non-RTO transmission provider and transmission-owning members of RTOs/ISOs from recovering penalty amounts through transmission rates.[492] Order No. 2023 further acknowledged differences between the transmission service studies addressed in Order No. 890 and interconnection studies and accounted for these differences in developing this study delay penalty regime.[493]

296. We also disagree with rehearing requests that argue that the elimination of the reasonable efforts standard and the adoption of a structure of performance standards, in the form of deadlines, and performance incentives, in the form of penalties, is premature, and that the Commission should have waited until other reforms took effect before considering whether to implement this reform, or should have instead simply augmented the reporting approach set forth in Order No. 845. While the Commission could have taken a more gradual approach in addressing interconnection queue backlogs, we find

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[491] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 876.

[492] *See id.* P 992.

[493] *See id.* P 1013.

that such an approach would not represent a just and reasonable replacement rate. Indeed, not only have our prior reforms failed to adequately control interconnection backlogs and delays, but the problem has instead significantly worsened, leading to unjust and unreasonable rates. Thus, notwithstanding that certain commenters may prefer a different approach—and particularly favor one that preserves for as long as possible the ability of transmission providers to extend their own deadlines to complete interconnection studies—we sustain Order No. 2023's finding that the reasonable efforts standard is contributing to those unjust and unreasonable rates such that reform of that standard is warranted now.[494] As a result, we also continue to find that Order No. 2023's approach of addressing the problem of interconnection queue backlogs and delays from multiple angles is both permissible and warranted given the extreme challenges identified in section II.A, above, and Order No. 2023.[495]

297. Moreover, under FPA section 206, the Commission need only find that the existing *pro forma* is unjust and unreasonable and that the replacement rate is just and reasonable; the Commission need not demonstrate that the replacement rate is the only

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[494] Notably, the rehearing requests cite no authority precluding the Commission from adopting the more comprehensive approach embodied in Order No. 2023. *See Flyers Rts. Educ. Fund, Inc. v. U. S. Dep't of Transp.*, 810 F. App'x 1, 3 (D.C. Cir. 2020) (explaining that *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502 (2009) "permits, but does not require, an agency to act incrementally."); *WildEarth Guardians v. U.S. E.P.A.*, 751 F.3d 649, 655–56 (D.C. Cir. 2014) (summarizing *Defenders of Wildlife v. Gutierrez*, 532 F.3d 913 (D.C. Cir. 2008), upholding a decision to focus on a comprehensive approach).

[495] *See, e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at PP 3, 27-29, 37-60.

just and reasonable approach.[496] We continue to find that a comprehensive approach, including the elimination of the reasonable efforts standard and adoption of performance standards and incentives (study deadlines and penalties), is necessary to remedy the unjust and unreasonable rates resulting from interconnection queue backlogs and is just and reasonable. We also note that arguments that this reform is premature are based on the premise that the other reforms in Order No. 2023 will be sufficient to remedy study delays. But at the same time, parties argue on rehearing that they cannot meet study deadlines, even with the other reforms in Order No. 2023. Both cannot be true. Either the other reforms in Order No. 2023 will be sufficient to ensure transmission providers can meet study deadlines, in which case they will not incur penalties under this regime, or—consistent with the Commission's conclusions in Order No. 2023 and herein—the other reforms will not be sufficient to ensure transmission providers meet study deadlines. In contrast, the Commission has here determined that a package of reforms—including both the elimination of the reasonable efforts standard and the other reforms required by the final rule—represents a reasonable and well-supported decision regarding the appropriate replacement rate.

298. With regard to arguments that the Commission's adoption of a deadline and penalty structure does not take into account that some transmission providers have

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[496] *See Emera Me.*, 854 F.3d at 22-23 (explaining the two-step analysis under section 206 and that, on the second prong, there is a substantial spread of potentially just and reasonable rates).

engaged in stakeholder processes on queue reform, we note that Order No. 2023 acknowledged these efforts.[497] However, we disagree that these efforts mean that the Commission cannot or should not implement further reforms. In the regions where stakeholder reforms are ultimately successful in reducing queue backlogs and preventing delayed studies, the penalties adopted in Order No. 2023 may never be relevant. However, as explained above, many regions of the country are still seeing significant and even growing queue backlogs and study delays. It is clear that further action is warranted.

299. The rehearing requests also mischaracterize Order No. 2023 in claiming that the Commission eliminated the reasonable efforts standard based on ensuring parity or fairness, rather than evidence. Given the magnitude and growth of the interconnection queue backlog, the Commission adopted a comprehensive approach to remedying the unjust and unreasonable rates caused by that backlog.[498] Order No. 2023's references to ensuring that transmission providers were "doing their part"[499] and "striking a balance"[500]

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[497] Order No. 2023, 184 FERC ¶ 61,054 at PP 16, 59, 1765-67. Because Order No. 2023 adopted the NOPR proposal to continue to apply the "consistent with or superior to" and "independent entity variation standards," *see id.* P 1764, the transmission providers that have engaged in these processes may still benefit from them, although we cannot prejudge any particular compliance filings.

[498] *See id.* P 968 (discussing the other reforms the Commission was adopting).

[499] *Id.*

[500] *Id.* P 972 ("The study delay penalty structure adopted in this final rule balances the harm to interconnection customers of interconnection study delays and the associated

were made in this context, reflecting that transmission providers have a role to play in addressing this backlog. This comprehensive approach recognizes the importance of addressing each of the principal factors contributing to interconnection queue backlogs, including those—like study timeliness—that are within the control, whether in whole or in part, of transmission providers. We are, therefore, not persuaded by arguments that the existence of factors beyond the control of transmission providers that may delay interconnection studies means that the elimination of the reasonable efforts standard, and its replacement with firm study deadlines and incentives in the form of penalties, cannot or will not be effective in reducing study delays.

300. We further conclude that contentions that the reasonable efforts standard carries benefits, including the flexibility to account for the complexities and variability of interconnection requests that may arise in the study process, do not demonstrate that this standard remains just and reasonable. While there is some benefit to such flexibility, this benefit does not outweigh the need for reform the Commission has discussed and particularly does not change the fact that interconnection queue backlogs and study delays are resulting in unjust and unreasonable rates. Indeed, unwarranted flexibility to the detriment of timely study completion represents a defect in the reasonable efforts standard in light of the record demonstrating such backlogs: it allows transmission

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need to incentivize transmission providers to timely complete interconnection studies with the burdens on transmission providers of conducting interconnection studies and potentially facing penalties for delays, including those that may be caused or exacerbated by factors beyond their control.").

providers too much discretion to extend their own study deadlines. We thus disagree with arguments claiming that the reasonable efforts standard is sufficient to hold transmission providers accountable and appealing to the flexible nature of the reasonable efforts standard as purportedly demonstrating that it remains just and reasonable.

301. Furthermore, we do not agree that the deadline and penalty structure set forth in Order No. 2023 is inflexible, as certain rehearing requests attempt to portray that structure in contrasting it with the reasonable efforts standard. Order No. 2023's deadline and penalty structure reasonably accounts for the interests of transmission providers, including in maintaining flexibility and accounting for the complexities of the interconnection study process,[501] in light of the need for reform to set clear standards for timeliness and effective measures to ensure those standards are met.[502] How each transmission provider determines to meet interconnection study deadlines is left up to that transmission provider. We find that this approach is appropriate given the variation in the operations of the transmission providers and how they conduct the study process, and that they have the most complete knowledge as to what actions to better ensure study timeliness will be most effective as to their specific processes. Rather than imposing a top-down approach that mandates specific actions, the Commission in Order No. 2023

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[501] *See, e.g.*, *supra* section II.D.1.a. (summarizing the safeguards established in Order No. 2023, particularly including the appeals process).

[502] *See also infra* PP 374-382 (rejecting arguments that the deadline and penalty structure adopted by Order No. 2023 is not just and reasonable based on purported negative consequences of that structure).

provided flexibility to transmission providers as to how they achieve those standards,[503] along with appropriate safeguards.

302. We disagree with arguments that the Commission has not demonstrated that there are steps that transmission providers can take to improve the timeliness of study processing, particularly given the factors that are outside of or not fully within their control, such that implementing a structure of performance standards and penalties to incentivize transmission to providers meet study deadlines is not just and reasonable. As described above, transmission providers exercise significant control over the study process through which they can influence whether the studies are timely completed.[504] It is not the case that there is no nexus between the speed of the interconnection queue and the incentives imposed on transmission providers to timely complete interconnection studies. In Order No. 2023, the Commission explained that transmission providers should be able to implement reforms to ensure that their study process is efficient and to help meet the deadlines set forth in that rule, including examples of steps that they may be able to take.[505] To the extent that transmission providers suggest that it is generically

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[503] *Cf., e.g., Transp. Div. of the Int'l Ass'n of Sheet Metal, Air, Rail & Transp. Workers v. Fed. R.R. Admin.*, 10 F.4th 869, 876 (D.C. Cir. 2021) (affirming a performance-based approach, rather than prescriptive approach, as reasonable).

[504] *See supra* P 284284.

[505] *See* Order No. 2023, 184 FERC ¶ 61,054 at PP 967, 975, 1004, 1007 (identifying steps including the management of operational resources, implementing reforms to increase the efficiency of study processing, investing in new software, and hiring additional personnel).

infeasible to allocate additional resources to ensure the timely completion of interconnection studies because that will require them to bear increased study costs, we are not persuaded by these concerns. As Order No. 2023 stated, "interconnection customers, rather than transmission providers, ultimately bear the costs of interconnection studies."[506] The allocation of such additional resources includes the allocation of additional personnel or consultants, as appropriate and available. Moreover, increased availability of qualified personnel may be driven, over time, by increased demand on the part of transmission providers. To the extent that transmission providers seek to retain additional personnel but there are extenuating circumstances rendering necessary personnel unavailable, leading to the assessment of penalties, transmission providers can explain the specific facts of their situation in an appeal to the Commission.

303. In addition, claims that transmission providers cannot take reasonable steps to achieve the deadlines set forth in Order No. 2023 are premised on incorrectly portraying the substantive deadlines set in Order No. 2023 and the circumstances under which penalties will be assessed as unduly burdensome or punitive. In imposing these deadlines, the Commission was mindful of the burdens on transmission providers in

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[506] *Id.* P 1007 ("To the extent that it is more costly to complete studies in a timely and accurate fashion, these interconnection study costs will be passed on to interconnection customers."). Nothing in Order No. 2023 or herein requires or suggests that transmission providers should attempt to hold personnel liable or punish them for study delays, and we therefore are not persuaded by SPP's claim that that qualified engineers may not want to work for transmission providers if they risk being identified as a cause of study delays that result in penalties.

conducting interconnection studies.[507] Moreover, in Order No. 2023 the Commission adopted a reasonable approach to selecting the deadlines in the *pro forma* interconnection procedures and, as further explained in greater detail below, we continue to conclude that the record supports that those deadlines should be achievable for the *pro forma* study process.[508] The safeguards the Commission selected—including, but not limited to, the ability to appeal a penalty—further respond to transmission providers' objections, including the extent to which study delays may be due to factors outside of their control.[509]

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[507] *See, e.g., id.* P 1004 (explaining that the Commission was adopting reforms from the NOPR such that it expected "that a transmission provider that faces the potential of a study delay penalty for failing to meet interconnection study deadlines will be able to allocate sufficient resources to conduct interconnection studies, in addition to implementing reforms to ensure that its study process is efficient" and declining to adopt certain proposals that might have resulted in greater burdens on transmission providers).

[508] *See infra* PP 318-320 (explaining that the *pro forma* study process should not impose a greater aggregate burden on transmission providers than the serial study process and discussing the available data reflecting the ability of transmission providers that have adopted a cluster study approach to conduct those studies within the timeframes set forth in Order No. 2023).

[509] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 987 ("In evaluating whether there is good cause to grant such relief, the Commission may consider, among other factors: (1) extenuating circumstances outside the transmission provider's control, such as delays in affected system study results; (2) efforts of the transmission provider to mitigate delays; and (3) the extent to which the transmission provider has proposed process enhancements either in the stakeholder process or at the Commission to prevent future delay"); *id.* at 979 (providing a lengthy transition period to allow transmission providers time to adapt to the new processes).

c. Adoption of a Study Deadline and Penalty Structure Replacement Rate

304. Having adopted the NOPR proposal to eliminate the reasonable efforts standard in Order No. 2023, the Commission was then required to adopt a replacement rate.[510] It found that a structure in which transmission providers are required to meet firm study deadlines (a standard to measure performance) and subject to penalties (an incentive to meet the tariff-prescribed firm study deadlines) with appropriate safeguards, was a just and reasonable approach.[511] This regulation of the interconnection study process is consistent with the Commission's long-standing regulation of the interconnection process, including the terms of the relationship between interconnection customers and transmission providers.

305. Courts have affirmed that this regulation of the interconnection process, and specifically the interaction between interconnection customers and transmission providers as necessary to avoid a degradation in service leading to unjust and unreasonable rates, falls squarely within the Commission's ratemaking authority.[512] For instance, in *NARUC*

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[510] *See id.* P 970.

[511] *See id.* PP 970-72.

[512] *See, e.g.*, *S.C. Pub. Serv. Auth.*, 762 F.3d at 63; *NARUC v. FERC*, 475 F.3d at 1279-1280; *see also FERC v. Elec. Power Supply Ass'n*, 577 U.S. 260, 266 (2016) (*EPSA*) (discussing the Commission's authority to "regulate 'the transmission of electric energy in interstate commerce' and 'the sale of electric energy at wholesale in interstate commerce' under FPA section 201(b), 16 U.S.C. § 824(b), and describing FPA sections 205 and 206 as affording FERC authority to "oversee all prices for those interstate transactions and all rules and practices affecting such prices"); *see also id*. at 277.

v. FERC, the D.C. Circuit affirmed the Commission's authority to issue Order No. 2003, observing that "Order No. 2003 asserts jurisdiction over the terms of interconnection between generators and transmission providers"[513] and citing the connection between those terms and the prices for regulated service. Indeed, the Commission established both the timelines for interconnection studies and the reasonable efforts standard in Order No. 2003,[514] which reflects the Commission's long-standing regulation of the timeliness of the interconnection study process.[515]

306. The deadline and penalty structure set forth in Order No. 2023 is a replacement of the Commission's prior study timelines, including the reasonable efforts standard, with

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[513] *NARUC v. FERC*, 475 F.3d at 1279 ("By establishing standard agreements FERC has exercised its jurisdiction over the *terms* of those relationships."); *see id.* at 1280; *ESI Energy, LLC v. FERC*, 892 F.3d 321, 324 ("[E]very time a new generator of electricity asked to use a transmission network owned by another—to interconnect the two entities—disputes between the generator and the owner of the transmission grid would arise, delaying completion of the interconnection process," which disputes "delay[ed] entry into the market by new generators," thus "providing an unfair competitive advantage to utilities owning both transmission and generation facilities.").

[514] *See* Order No. 2003, 104 FERC ¶ 61,103, at app. C, LGIP section 1 (defining "Reasonable Efforts"; *id.* sections 6.3, 7.4, 8.3 (providing for the use of reasonable efforts to complete study processes within specified timeframes).

[515] The Commission further has regulated the charges for the interconnection study process through setting the study deposit amount, *see pro forma* LGIP section 3.1.1, and the recovery of the costs for interconnection studies, *see* Order No. 2023, 184 FERC ¶ 61,054, *pro forma* LGIP sections 7.1, 8.1, 9.4, 13.3, app. 2 at section 6, app. 7 at section 7, app. 8 at sections 7-8, app. 9 at section 6, app. 10 at section 6 (reflecting revisions to the *pro forma* LGIP and appendices set forth in Order No. 2003).

another standard directed toward that same end.[516] Specifically, the deadline and penalty structure implemented in Order No. 2023 governs the terms of the relationship between the interconnection customer and transmission provider regarding the costs that transmission providers can recover for interconnection studies that fail to meet certain standards. Given that interconnection queue backlogs—which are driven, in part, by study delays—result in unjust and unreasonable rates through, e.g., increased costs and decreased competition,[517] the study delay penalty structure is a means of ensuring just and reasonable rates, consistent with the Commission's authority under FPA section 206. Moreover, delayed interconnection studies impose costs on interconnection customers,[518] such that the value of the interconnection study to such customers is linked to its timely performance. The implementation of study delay penalties reflects this fact, and—particularly because the penalties are distributed to interconnection customers in proportion to their study costs[519]—regulates what a transmission provider can charge for an interconnection study, accounting for study timeliness, as a matter of ensuring just and reasonable rates.

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[516] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 50.

[517] *See id.* PP 37, 43, 50, 963.

[518] *See id.* PP 43, 972.

[519] *See id.* PP 984, 990; *infra* P 439 (discussing the distribution of penalties to interconnection customers).

307. The approach adopted in Order No. 2023 of employing penalties as an incentive for regulated actors to ensure adequate service, pursuant to the Commission's statutory mandate to ensure just and reasonable rates under FPA sections 205 and 206, is not novel. The Commission has previously accepted tariff mechanisms incorporating the use of penalties for failure to meet a performance standard as a component of a just and reasonable rate.[520] Order No. 890's implementation of operational penalties for routinely delayed transmission studies similarly reflects a structure using such penalties to accomplish the Commission's ratemaking objectives.[521]

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[520] *See, e.g., Advanced Energy Mgmt. All. v. FERC*, 860 F.3d 656, 665 (D.C. Cir. 2017) (*AEMA*) (affirming Commission approval of revised market rules under which "a resource that fails to meet its capacity commitment during an emergency hour must pay a penalty"); *Belmont Mun. Light Dep't v. FERC*, 38 F.4th 173, 177 (D.C. Cir. 2022); *Energy Harbor LLC*, 185 FERC ¶ 61,203, at P 2 (2023) (explaining that "PJM's Capacity Performance construct creates a penalty and bonus structure for Capacity Resources to deliver energy and reserves" under certain conditions); *PJM Interconnection, L.L.C.*, 155 FERC ¶ 61,157, at P 18 (2016) (further describing this capacity construct); *ISO New England Inc.*, 174 FERC ¶ 61,252, at PP 3-4 (2021) (discussing ISO-NE's "pay-for-performance" capacity market design); *ISO New England Inc*., 165 FERC ¶ 61,266, at PP 1, 22 (2018) (accepting proposal to allow ISO-NE to levy a monthly "Failure to Cover Charge Rate," described as a "just and reasonable penalty rate," explaining that it will incentivize resources to cover that obligation); *cf.* PJM Rehearing Request at 30 (acknowledging that various "RTO tariffs and other tariffs contain various penalty provisions"); Order No. 2003, 104 FERC ¶ 61,103 at PP 857, 898 (considering whether to provide for liquidated damages for delayed interconnection studies in the *pro forma* LGIP, and declining to do so, but observing that liquidated damages provisions are within the Commission's statutory authority).

[521] *See, e.g.*, Order No. 890, 118 FERC ¶ 61,119 at P 1340 (describing this structure and explaining that transmission providers "must have a meaningful stake in meeting study time frames"); *id.* P 1347 (explaining the Commission's rationale for the penalty amounts selected as "in line with the cost the transmission provider would incur to focus additional resources on processing" study requests and as an effective incentive

308. To that end, the Commission adopted the study deadline and penalty structure pursuant to its authority under FPA section 206.[522] In doing so, it stated that its approach was not based on a finding of bad faith on the part of transmission providers,[523] or intended to create a punitive structure,[524] but instead reflected the need for adequate incentives for transmission providers to take the steps within their control to help alleviate unjust and unreasonable rates stemming from interconnection queue delays and backlogs.[525] In this respect, the implementation of the study deadline and penalty structure in Order No. 2023 reflects that—as a component of a comprehensive package of reforms to remedy the problem of severe interconnection queue delays and backlogs—transmission providers will be held to appropriate standards, with stated consequences for failure to meet those standards, as is also the case with interconnection customers.[526] As

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to comply with study deadlines); Order No. 2023, 184 FERC ¶ 61,054 at PP 1013, 1015 & nn.1958-60 (discussing the penalty structure implemented under Order No. 890 for transmission service studies and automatic penalties for "traffic ticket" violations).

[522] Order No. 2023, 184 FERC ¶ 61,054 at P 1014.

[523] *See id.* P 966.

[524] *See, e.g.*, *id.* P 999 ("[W]e believe that the study delay penalty structure strikes a reasonable balance by providing an adequate incentive without being punitive").

[525] *See id.* PP 37-43, 50, 970-72.

[526] *See, e.g.*, *supra* section II.A.3 (discussing the need for comprehensive reform to address this problem); *pro forma* LGIP sections 3.4, 3.5, 3.7, 3.7.1 (reflecting examples of such consequences applicable to interconnection customers, including that their interconnection requests may be deemed withdrawn, loss of queue position, and application of the withdrawal penalty).

discussed in detail below,[527] the implementation of this incentive structure pursuant to FPA section 206 is further consistent with Supreme Court precedent differentiating civil penalties that are imposed as punishment to redress a wrong to the public versus those that serve other purposes, such as the regulation of the interaction between parties to serve a compensatory function.[528] Order No. 2023's deadline and penalty structure falls within the latter category, supported by the Commission's well-established FPA authority over the interconnection process to avoid degradation of service, its authority to regulate the relationship of the parties involved in that process, and its authority to ensure just and reasonable rates under FPA section 206.

i. Interconnection Study Deadlines

(a) Requests for Rehearing

309. Several of the rehearing requests contend that the imposition of fixed, uniform study deadlines is arbitrary and capricious because it fails to account for the specific circumstances of the cluster being studied, particularly given the complexity and variability of the study process.[529] For instance, Avangrid and EEI argue that the

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[527] *See infra* section II.D.1.c.iv.

[528] *See Kokesh v. SEC*, 581 U.S. 455, 461 (2017) (*Kokesh*).

[529] Avangrid Rehearing Request at 4-5; EEI Rehearing Request at 10; Indicated PJM TOs Rehearing Request at 16; NYISO Rehearing Request at 4; NYTOs Rehearing Request at 13-15; 26-27 (arguing that there are conflicting directives in Order No. 2023 that support regional flexibility but also provide for study penalties following strict deadlines that do not account for unique challenges and dynamics in different regions, which it claims could hinder ongoing regional queue reform initiatives and stifle

Commission's 150-day cluster study deadline is a "one-size-fits-all" approach that disregards that clusters of interconnection studies will vary widely in size and complexity, and there are numerous variables outside of transmission providers' control that contribute to delays.[530] Indicated PJM TOs argue that the Commission failed to consider the uneven and unpredictable timing of interconnection requests.[531]

310. Relatedly, Indicated PJM TOs also assert that the uniform study deadline and penalty framework is unduly discriminatory against transmission owners in regions with substantial renewable generation in development, because such regions with long queues will experience greater risk of penalties due to factors they cannot control.[532] Dominion asserts that, within RTOs and ISOs, there may be disparate outcomes in different zones because of an uneven distribution of interconnection requests, such that different transmission owners or transmission providers will face very different risks.[533]

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innovation); SPP Rehearing Request at 9-10.

[530] Avangrid Rehearing Request at 4-5; EEI Rehearing Request at 10.

[531] Indicated PJM TOs Rehearing Request at 16 (citing factors driving variability in the number and timing of interconnection requests in different locations); *id.* at 30-31 (arguing that the evidence of widespread study delays show that the aggressive deadlines are unreasonable, unrealistic, and arbitrary, particularly given the increased burdens that can be expected going forward, including new NERC standards; arguing that uniform study deadlines are not justified).

[532] *Id.* at 31-32.

[533] Dominion Rehearing Request at 24-25.

311. A number of the rehearing requests also challenge the specific deadlines the Commission selected—including, in particular, the 150-day cluster study deadline—as insufficiently supported and/or too short, risking a less efficient interconnection process.[534] MISO TOs and NYISO argue that the deadlines imposed in Order No. 2023 have not been shown to be appropriate and achievable or are not supported by evidence.[535] NYISO argues that study deadlines should be tailored to each region.[536] NYISO and PJM argue that a 150-day timeframe for the cluster study is not achievable in their regions in particular.[537] PacifiCorp asserts that the Commission should extend the

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[534] EEI Rehearing Request at 9-10 ("Experience has shown that reliability and deliverability studies take longer than 50 days and that the development of binding cost estimates may be complex, especially in high-density urban areas."); MISO TOs Rehearing Request at 11-12; NYISO Rehearing Request at 5-6; NYTOs Rehearing Request at 13-15; PacifiCorp Rehearing Request at 5, 15; PJM Rehearing Request at 32.

[535] MISO TOs Rehearing Request at 11-12 (also arguing that the Commission has not shown why a uniform deadline is appropriate irrespective of "the cluster size, scope, geography, make up, proposed resource mix, and other circumstances of the particular cluster" and that the automatic imposition of penalties exacerbates the problem posed by the deadlines); NYTOs Rehearing Request at 13-15 (citing *N. Y. v. EPA*, 964 F.3d 1214, 1224 (D.C. Cir. 2020) and *All. for Cannabis Therapeutics v. DEA.*, 930 F.2d 936, 940 (D.C. Cir. 1991) for the propositions that standards that are not reasonably attainable and conditions which are "impossible to fulfill" are arbitrary and capricious).

[536] NYISO Rehearing Request at 5-6; *see also id.* at 15-17 (arguing that the Commission should allow RTOs/ITOs to propose alternative study deadlines as independent entity variations, and that failure to do so unreasonably treats all transmission providers similarly, regardless of how they may be differently situated); *id.* at 40 ("[T]he Commission has not adequately addressed, or explained its response to, arguments that study deadlines themselves are unreasonable.").

[537] *Id.* at 6-11 (describing the applicable New York reliability requirements and discussing particular challenges applicable to New York); PJM Rehearing Request at 32

150-day cluster study and restudy deadlines by 45 days to provide transmission providers adequate time to address third-party delays.[538]

312. Avangrid, NYISO, and PJM contend that the efficiency gains that can be expected from the other reforms set forth in Order No. 2023 will not render the deadlines imposed by that decision more achievable.[539] NYISO and PJM contend that the study entry requirements are not likely to materially deter participation in cluster studies, claiming that certain RTOs/ISOs—including NYISO—have already adopted similar requirements without a noticeable reduction in the number of study participants.[540]

313. Dominion, MISO TOs, and NYISO also challenge the effectiveness of one of the safeguards that the Commission imposed: the ability to extend a study deadline for 30

("This simply is not possible in a region such as the PJM Region, where the typical queue over a one-year period in the last few years has included in excess of 1,000 projects").

[538] PacifiCorp Rehearing Request at 5, 15.

[539] Avangrid Rehearing Request at 12; NYISO Rehearing Request at 12-15 (arguing that much of the work in cluster studies still concerns individual projects or subsets of projects, and thus require many of the same resources as would be necessary to conduct individual studies); *see also id.* at 34 (contending that the Commission assumes, without evidence, that other improvements will fully offset the burdens imposed by Order No. 2023 on transmission providers); PJM Rehearing Request at 32.

[540] NYISO Rehearing Request at 14-15 (asserting that the entry requirements and withdrawal penalties adopted by Order No. 2023 for cluster studies are comparatively modest and likely to be only minimal deterrent to speculative projects); PJM Rehearing Request at 32 (noting that MISO received more than 960 requests following the close of its 2022 Definitive Planning Process cycle that closed in 2022).

days, upon agreement of all interconnection customers.[541] Dominion argues that there is no incentive for interconnection customers to agree to such an extension where they would otherwise be entitled to a share of the penalty assessed against a transmission provider.[542] MISO TOs note that obtaining this relief requires unanimity among all interconnection customers.[543]

(b) Determination

314. We are not persuaded by the rehearing requests challenging the study deadlines set forth in Order No. 2023. The timelines set forth in Order No. 2023 are reforms to the Commission's *pro forma* LGIP, against which individual compliance filings will be assessed.[544] In Order No. 2023, the Commission declined to "adopt suggestions to allow

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[541] Dominion Rehearing Request at 24; MISO TOs Rehearing Request at 18-19; NYISO Rehearing Request at 35.

[542] Dominion Rehearing Request at 24.

[543] MISO TOs Rehearing Request at 18-19 (contending that this safeguard is therefore "wholly illusory"); *see also* NYISO Rehearing Request at 35 (arguing that a 30-day extension is not a reasonable safeguard; noting that it will be conducting interconnection studies potentially involving more than 100 interconnection requests and arguing that each interconnection customer will have an incentive to oppose an extension since their study costs would be offset by penalty charges).

[544] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 10 ("We note that the compliance obligations that result from this final rule will be evaluated in light of the independent entity variation standard for [RTOs] and [ISOs] and the consistent with or superior to standard for non-RTO/ISO transmission providers."); *id.* P 1764; *see also* Order No. 2003, 104 FERC ¶ 61,103 at P 26 (discussing the standards for non-independent and independent transmission providers to seek variations from the terms of the *pro forma* LGIP and LGIA); *Preventing Undue Discrimination & Preference in Transmission Serv.*, Order No. 890-B, 123 FERC ¶ 61,299, at PP 95, 101 (2008) ("The Commission clarifies,

transmission providers flexibility to set their own study deadlines," instead imposing standard deadlines for the specific study processes set forth in the *pro forma* LGIP.[545] As explained below, we continue to find that the deadlines set in Order No. 2023 for the *pro forma* study process are just and reasonable and represent a reasonable policy determination that appropriately balances multiple competing considerations.[546]

315. We continue to conclude that the timeframes in Order No. 2023 for the completion of studies, including the 150-day timeframe for the completion of cluster studies, are just and reasonable for the *pro forma* study approach set forth in Order No. 2023.[547] The underlying reason for the reforms in Order No. 2023, including the deadlines imposed on transmission providers to conduct studies, is that interconnection queue backlogs are

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in response to NYISO, that transmission providers are free to make filings under FPA section 205 to seek variations from the *pro forma* OATT and demonstrate that alternative tariff provisions are consistent with or superior to the *pro forma* OATT."); *N.Y. Indep. Sys. Operator, Inc.*, 125 FERC ¶ 61,274, at P 24 & n.23 (2008) ("NYISO proposed to increase the transmission study deadlines from 60 days to 120 days. The Commission accepted the filing . . . .").

[545] Order No. 2023, 184 FERC ¶ 61,054 at P 331 (explaining that allowing transmission providers to propose their own deadlines in the first instance "would undermine the purpose of ensuring that transmission providers complete interconnection studies by standard deadlines prescribed by their tariffs and would thus be insufficient to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner").

[546] Transmission providers are also allowed to propose variations from the requirements of Order No. 2023, under the applicable standard, including as to the deadlines set for the *pro forma* study processes, although we cannot prejudge any such filings. *See id.* P 1764.

[547] *See id.* PP 324, 326.

causing unjust and unreasonable rates and that these backlogs must, therefore, be remedied pursuant to our statutory mandate.[548] We find that the timelines set forth in Order No. 2023 appropriately address transmission providers' role and control in the interconnection study process and strike a reasonable balance between the transmission provider and other interests, such as those of interconnection customers, in addressing such unjust and unreasonable rates. As explained in greater detail below, we further find that these timelines are reasonably achievable to accomplish the *pro forma* study processes set forth in Order No. 2023. We therefore disagree that these timelines are too short or inappropriately uniform.

316. As the Commission explained in Order No. 2023, "[t]he *pro forma* LGIP [set forth in Order No. 2003] requires that transmission providers use reasonable efforts to complete: (1) feasibility studies within 45 calendar days; (2) system impact studies within 90 calendar days; and (3) facilities studies within 90 or 180 calendar days."[549]

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[548] *Id.* P 964; *see also* 16 U.S.C. § 824e(a); *Coal. of MISO Transmission Customers v. FERC*, 45 F.4th 1004, 1020 (D.C. Cir. 2022) ("[T]he Commission is under a statutory mandate to ensure that all rates are just and reasonable . . . .").

[549] Order No. 2023, 184 FERC ¶ 61,054 at P 13. Challenges to the timelines for interconnection studies set forth in Order No. 2023 are focused on the deadlines for conducting cluster studies, rather than facilities studies. Order No. 2023 provides 90 or 180 days to conduct facilities studies, which is consistent with the timeframe specified in Order No. 2003 under the reasonable efforts standard. *See pro forma* LGIP section 8.3. Thus, Order No. 2023 effectively eliminates the ability of transmission providers to unilaterally grant themselves extensions as to the deadline for facilities studies, but provides other avenues for relief in the form of the safeguards adopted in Order No. 2023. We continue to conclude that this is a just and reasonable result.

Under the Commission's *pro forma* LGIP set forth in Order No. 2003, the interconnection study process for large generating facilities was a "serial first-come, first-served study process by which transmission providers study interconnection requests individually in the order the transmission provider received them."[550] Under this process, the transmission provider had 135 total days to conduct both the feasibility study and system impact study for each interconnection request, with each study conducted separately.

317. Order No. 2023 eliminated the requirement to conduct a separate feasibility study under section 6 of the *pro forma* LGIP,[551] and provides a modestly longer timeframe (150 days) to conduct the cluster study and another 150 days to conduct any necessary restudy. The 150-day period to conduct the cluster study runs from the conclusion of a new 60-day customer engagement window, during which time the transmission provider can begin to coordinate with customers that have submitted interconnection requests that will be included in a particular study and ensure that the provider is considering only valid interconnection requests.[552]

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[550] NOPR, 179 FERC ¶ 61,194 at P 18.

[551] Order No. 2023, 184 FERC ¶ 61,054 at PP 67, 92, 316. Instead, the stability analysis, short circuit analysis, and power flow analysis that were previously part of the feasibility study and conducted on a serial basis, *see id.* at PP 297, 317; *pro forma* LGIP section 7.3, are now conducted as components of the cluster study and restudy process.

[552] *See* LGIP section 3.4.5 (describing tasks to be performed in the Customer Engagement Window and that interconnection requests not deemed valid at the close of this window shall be deemed withdrawn, with no cure period); Order No. 2023, 184

318. We acknowledge that conducting a cluster study of many interconnection requests may involve increased complexity or require an increased commitment of resources in a given study timeframe as compared to conducting a single, individual study of a particular interconnection request under the serial process.[553] However, arguments to this effect do not take into account the full package of reforms aimed at improving efficiency of the study process, supporting our determination that the 150-day cluster study and cluster restudy deadlines reflect a reasonable balance of competing interests.

319. Indeed, various reforms in Order No. 2023 are directed toward ensuring that transmission providers can conduct their interconnection studies more efficiently under the cluster study process than the *pro forma* study approach previously applicable under Order No. 2003.[554] For instance, the Commission found that the cluster study "process will increase efficiency because transmission providers can perform larger interconnection studies encompassing many proposed generating facilities, rather than separate studies for each individual interconnection customer."[555] Under this approach, transmission providers will be able to focus their resources on a single study, rather than

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FERC ¶ 61,054 at PP 223, 233-34.

[553] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 326 ("While we have extended the timeline from that provided in the individual serial study process, we believe that 150 calendar days is a reasonable extension to account for the more complex study.").

[554] *Id.* PP 326, 1004.

[555] *Id.* P 177.

conducting multiple individual studies.[556] For that reason, even if cluster studies prove more complex, that point does not undercut the Commission's conclusion that they can be performed in the time allotted in the *pro forma* LGIP. The Commission also explained that a cluster study process is likely to result in fewer interconnection customer withdrawals—which can result in cascading restudies, delays, and wasted resources which could otherwise be used productively—because "conducting a single cluster study and cluster restudy will minimize delays that arise from proposed generating facility interdependencies under the existing serial study process."[557] The Commission also adopted further measures to increase efficiency, including to "disincentivize interconnection customers from submitting interconnection requests for speculative generating facilities and ensure that ready, more viable proposed generating facilities can proceed through the study process."[558]

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[556] *Id.* P 326 ("We also note that transmission providers will be conducting only one interconnection study, or at most a small number of interconnection studies, at a time, allowing them to devote more resources to completing the studies in a timely manner.").

[557] *Id.* P 177.

[558] *Id.* (discussing the cluster study process, combined with "the increased financial commitments and requirements to enter the interconnection queue, such as a demonstration of site control"); *see also id.* P 977 (noting the "the new site control requirements, commercial readiness deposits, and withdrawal penalties we adopt in this final rule, which also become increasingly stringent as the study process progresses"); *cf. also* LGIP sections 3.4.5, 3.7 (providing that, at the close of the customer engagement window, only valid interconnection request are included in the study process; further providing that interconnection requests may be deemed withdrawn if interconnection customers fail to adhere to the requirements of the LGIP).

320. Thus, for the *pro forma* LGIP approach set forth in Order No. 2023, we conclude that conducting cluster studies and restudies should not, in terms of the total transmission provider resources required, be materially more burdensome than conducting serial studies and expect that the process should, in fact, be more efficient. We acknowledge that conducting a cluster study in 150 days may require a more concerted deployment of transmission provider resources than conducting serial studies, because cluster studies typically involve the evaluation of multiple interconnection requests, rather than allowing a full 135 days to separately evaluate each interconnection request. However, even absent the efficiency gains the adopted in Order No. 2023, the record here does not reflect that conducting a cluster study will be, in aggregate, more burdensome, let alone significantly more burdensome, than conducting a study of each interconnection request on an individualized basis. Moreover, balancing this concern regarding the burdens associated with cluster studies against interconnection customers' need for timely processing of their requests, interconnection queue backlogs, and the unjust and unreasonable rates resulting from such backlogs, we conclude that this is a necessary reform in order to improve the timeliness of interconnection study processing and should be within transmission providers' capabilities.[559]

321. Data reported as required by Order No. 845 by the non-RTO/ISO transmission providers that conducted cluster studies in 2022 also supports our conclusion that the

[559] Order No. 2023, 184 FERC ¶ 61,054 at P 1007.

deadlines for conducting cluster studies, restudies, and facilities studies are just and reasonable.[560] While the approaches of each transmission provider to conducting cluster studies vary and no transmission provider represented in this data employs precisely the *pro forma* study approach set forth in Order No. 2023, we find that this data provides a valid basis of comparison to assess the deadlines set in Order No. 2023. In general, this represents the most recent data set available at the time the record closed and these transmission providers' approach to cluster studies reflect some of the key substantive reforms required in Order No. 2023.[561]

322. The data reflects that five (of eight) such transmission providers were able, applying a cluster study approach, to complete system impact studies in an average of fewer than 150 days. In several cases, they did so for clusters containing significant numbers of interconnection requests. Thus, the experience of these transmission providers supports that it is reasonably feasible to complete cluster studies in the timeframe specified by Order No. 2023. Particularly given the other reforms provided in Order No. 2023 to increase the efficiency of this process, the ability of transmission providers to increase efficiency and devote more resources to this process, and the need to ensure timely processing of interconnection studies in order to ensure just and

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[560] *See* app. B.

[561] Moreover, that several transmission providers with somewhat variable approaches to cluster studies completed system impact studies in fewer than 150 days, on average, corroborates that—in general—it is possible to conduct such studies on this time frame.

reasonable rates, this data supports our conclusion that the deadlines set by Order No. 2023 to complete such studies are just and reasonable.

323. We acknowledge that three of the transmission providers represented in this data exceeded this timeframe, in some cases by a substantial amount. This, however, does not rebut the evidence from other transmission providers that these deadlines are reasonably achievable. Moreover, that these transmission providers did not complete their studies in fewer than 150 days, operating under a regime governed by the reasonable efforts standard and the ability to self-extend such deadlines, does not demonstrate that they could not have done so if appropriately incentivized to meet these performance standards, as under the deadline and penalty structure adopted in Order No. 2023.[562]

324. We also find that the safeguards provided in Order No. 2023 help ensure that the balance struck by Order No. 2023 in setting the timeframes for the *pro forma* interconnection study process is reasonable because transmission providers will not unduly incur penalties for failing to meet these timeframes. Two of those safeguards, namely the ten-business day grace period and the potential availability of a 30-day extension upon agreement of the interconnection customers in the cluster study,[563] help

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[562] *See, e.g.*, *Cent. Hudson*, 783 F.3d at 109 (holding that the Commission may permissibly rely on economic theory so long as it has applied the relevant economic principles in a reasonable manner and adequately explained its reasoning); *Sacramento*, 616 F.3d at 531 ("[I]t was perfectly legitimate for the Commission to base its findings about the benefits of marginal loss charges on basic economic theory, given that it explained and applied the relevant economic principles in a reasonable manner.").

[563] *See* Order No. 2023, 184 FERC ¶ 61,054 at PP 963, 981-83; *see also infra*

accommodate the possible need for extensions to study deadlines. The significant transition period that the Commission afforded before study delay penalties might be assessed allows transmission providers "time to adapt to the new processes" and "will help ensure that transmission providers' implementation of this final rule has begun to reduce backlogged interconnection queues."[564] The appeals process allows transmission providers the opportunity to demonstrate that, under their individualized circumstances, they should receive relief from the application of penalties for failing to meet the deadlines set in Order No. 2023.[565] To the extent that transmission providers assert that factors allegedly outside of their control may render it difficult or infeasible to meet the interconnection study deadlines, this appeals process is the avenue to raise those considerations in particular cases and seek relief.[566] Moreover, as addressed above, where transmission providers conclude that the 150-day deadline for the *pro forma* study process is not appropriate for their particular study processes, they can raise this issue in their compliance filings, under the appropriate standard. Thus, we continue to conclude

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P 335 (recognizing that the 30-day extension is not guaranteed in all cases but disagreeing with claims that it will be ineffective in practice).

[564] Order No. 2023, 184 FERC ¶ 61,054 at P 979.

[565] *Id.* PP 987-89.

[566] *See also infra* P 363 (noting that concerns that transmission providers may not be afforded relief in the appeals process, where they believe such relief would be warranted, are premature).

that the deadlines imposed by Order No. 2023 are reasonable as to the *pro forma* LGIP approach to interconnection studies set forth therein.

325. The challenges on rehearing arguing that the timeframes set forth to conduct interconnection studies are too short or inappropriately uniform do not persuade us that these deadlines are not reasonable for the timely completion of the *pro forma* study process. We disagree with arguments that the Commission failed to adequately set forth its rationale for adopting these deadlines, and find that our reasons for adopting these deadlines have been adequately explained, including through our discussion herein. Arguments that the deadlines are too short are largely conclusory, do not support a finding that the deadlines set for the *pro forma* LGIP processes are not generally achievable as to those processes, and fail to establish that these deadlines—in light of the overall structure of Order No. 2023, including the relevant safeguards and ability to seek variations—reflect an unreasonable balance of the competing interests.

326. We are unpersuaded by arguments that uniform study deadlines are inappropriate. First, these arguments disregard the mechanisms in Order No. 2023 to account for variability, including the safeguards attendant to the potential assessment of penalties and the ability to seek variations from the *pro forma* LGIP in the compliance process. Second, general assertions that some transmission providers may have higher workloads than others do not establish that the relevant deadlines will not, as a general matter, be sufficient to allow most transmission providers to conduct the relevant studies. Third, to the extent that some transmission providers have higher workloads associated with interconnection requests than other providers, the deadlines in Order No. 2023

incentivize those transmission providers to devote resources commensurate with those workloads to the timely processing of the interconnection requests in their queue. On that point, it bears repeating that the Commission has determined that the *status quo* is leading to unjust and unreasonable rates. As such, while the reforms in Order No. 2023 may require transmission providers to reprioritize their allocation of resources, we find that such reallocation may be necessary to satisfy the statutory mandate.

327. In response to arguments that the Commission ignored the uneven and unpredictable timing of interconnection requests, we conclude that Order No. 2023 adequately accounts for these considerations. First, interconnection requests will be submitted during an annual cluster request window, which is a 45-calendar day period with the start date to be determined by each transmission provider: under this structure, the timing of interconnection requests will not be unpredictable.[567] Second, we acknowledge that the number of interconnection requests submitted in a given cluster request window is unpredictable and impacts the deployment of resources that may be required to complete that cluster of interconnection studies.[568] However, we continue to find that it is necessary for transmission providers to have explicit and firm deadlines prescribed by their tariffs to ensure customers are able to interconnect to the transmission

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[567] Order No. 2023, 184 FERC ¶ 61,054 at PP 223, 236.

[568] *Cf. id.* P 324 ("We note that depending on the cluster size, cluster studies may not always consume the entire 150 calendar days, and if a cluster study is complete prior to this deadline, transmission providers have flexibility to provide the cluster study report at that time prior to the deadline indicated in its LGIP[.]")

system in a reliable, efficient, transparent, and timely manner.[569] These deadlines, subject to the safeguards articulated in Order No. 2023 (including the appeals process), represent a just and reasonable approach that balances the competing interests of transmission providers and other entities, and should be reasonably achievable for the *pro forma* study approach adopted in Order No. 2023. And as noted above, Order No. 2023 does not foreclose transmission providers from proposing different deadlines as part of their compliance filings and supporting such proposals using either the consistent with or superior to or independent entity variation standard, as appropriate.

328. NYISO specifically asserts that the 150-day deadline for completing cluster studies is not adequate to accommodate NYISO's process.[570] In support, it introduces a new affidavit describing NYISO's performance of interconnection studies, and the timing associated with the relevant tasks.[571] Acknowledging that the Commission does not typically consider new evidence on rehearing, NYISO asserts that the Nguyen Affidavit is not new evidence because it "provides clarifying details regarding publicly available information about the NYISO's Commission-approved interconnection procedures that

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[569] *Id.* P 331.

[570] *See* NYISO Rehearing Request at 5-6 (arguing that the Commission has not established a basis for the 150-day deadline for cluster studies and should allow each transmission provider to propose its own study deadline); *id.* at 6-12 (arguing that a 150-day study timeframe is not consistent the process NYISO follows).

[571] *See id.*, attach. I (Nguyen Aff.).

the NYISO has already described in this proceeding."[572] It further claims that, even if the Nguyen Affidavit constitutes new evidence, the Commission should accept it to because NYISO could not have reasonably anticipated certain alleged factual misunderstandings regarding the interconnection study process, the potential benefits of interconnection studies, and the level of collaboration required to complete studies in New York in Order No. 2023.

329. We are not persuaded that the Nguyen Affidavit is properly before us. To the extent that the Nguyen Affidavit contains material not otherwise present in the record, it is new evidence. And NYISO has not shown that the evidence in this affidavit could not have been presented previously; this affidavit is not prompted by information that only recently became available or concerns driven by a material change in circumstance.[573] Indeed, NYISO's argument that the Commission should consider this evidence is,

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[572] NYISO Rehearing Request at 7 n.15; *see also NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 116-17 (D.C. Cir. 2017) (citing *PJM Interconnection, L.L.C.*, 108 FERC ¶ 61,187, at P 49 (2004) ("Parties seeking rehearing of Commission orders are not permitted to include additional evidence in support of their position, particularly when such evidence is available at the time of the initial filing."); *NO Gas Pipeline v. FERC*, 756 F.3d 764, 770 (D.C. Cir. 2014) (*NO Gas*) ("FERC regularly rejects requests for rehearing that raise issues not previously presented where there is no showing that the issue is 'based on matters not available for consideration . . . at the time of the final decision.'").

[573] *See* 18 CFR 713.385(c)(3); *Pub. Ser. Co. of N.M.*, 181 FERC ¶ 61,013, at P 12 & n.25 (2022).

essentially, that it believes the Commission erred[574] but—if so—NYISO's proper recourse would be to demonstrate that purported error based on the existing record.

330. Regardless, we would not be persuaded by NYISO's arguments even if we were to consider the Nguyen Affidavit in assessing them. The question before the Commission in establishing the deadlines for the *pro forma* study process set forth in Order No. 2023 is whether those deadlines are reasonable as applied to that process. NYISO's argument does not address this question. Rather, NYISO's position is that the 150-day timeframe is not sufficient for NYISO's specific interconnection process, which it has adopted under the independent entity variation standard and which differs significantly from the process specified in Order No. 2023.[575] NYISO itself obliquely recognizes this point, asserting that "NYISO anticipates that it will seek an independent entity variation from this study timeframe to better align with the study scope it will propose for the unique

[574] We also disagree with NYISO's generalized assertion that the Commission misunderstood the interconnection study process, the benefits of such studies, or the level of collaboration involved in such studies.

[575] *See, e.g.*, NYISO Rehearing Request at 6-11; NYISO Initial Comments at 2-3 ("Among the significant variations, the NYISO already uses a first-ready, first served approach for managing projects in its interconnection queue and uses a cluster Class Year Study as the final, hallmark study in its LFIP."); NYISO Initial Comments, app. A at 1 (explaining that "NYISO's interconnection procedures include numerous independent-entity variations accepted by the Commission that are specifically tailored to the distinct circumstances in New York and the NYISO's wholesale market rules and planning processes."); National Grid Initial Comments at 13-14 (discussing the NYISO "Class Year Study" approach and asserting that 150 days may not be sufficient for this process).

interconnection issues in New York."[576] As noted above, we will consider such arguments in individual transmission provider compliance proceedings.

331. NYISO more generally asserts that the efficiencies associated with a cluster study approach that the Commission identified in Order No. 2023 may be offset by increased volumes of interconnection requests that might participate in each cluster study.[577] NYISO further claims that additional financial requirements to enter the interconnection queue have not, in its experience, materially decreased the number of projects entering the queue.[578] Similarly, Avangrid claims that there is insufficient evidence that the easing of burdens on transmission providers, under Order No. 2023's reforms, will be adequate to justify the deadlines imposed by Order No. 2023.[579]

332. These arguments do not persuade us that the *pro forma* deadlines selected in Order No. 2023 for the conduct of interconnection studies are not just and reasonable. Neither NYISO nor Avangrid disputes that there will be efficiency gains from transitioning to cluster studies, which was a reform broadly supported by commenters. We further expect

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[576] NYISO Rehearing Request at 4.

[577] *Id.* at 12-14.

[578] *Id.* at 14-15 (stating that increasing study deposits and adding regulatory milestone deposits has not resulted in a corresponding decrease in projects entering the queue; also citing MISO's July 19, 2023, proposal to impose more stringent entry requirements); *see also* PJM Rehearing Request at 32 (asserting that MISO received more than 960 requests following the close of its 2022 Definitive Planning Process cycle that closed in 2022).

[579] Avangrid Rehearing Request at 12.

that the more stringent requirements to enter the interconnection queue set forth in Order No. 2023, including but not limited to financial requirements,[580] will help reduce speculative interconnection requests. To the extent that volumes of interconnection requests remain high, this counsels in favor of—not against—ensuring that that transmission providers exercise the control they have over the process to help ensure interconnection studies proceed more expeditiously. As discussed, these reforms are necessary to ensure the timely processing of interconnection requests and thereby remedy the problem of unjust and unreasonable rates resulting from queue delays and backlogs.

333. Indicated PJM TOs rely on a non-sequitur in claiming that the existence of widespread study delays in 2022 is evidence that the deadlines set in Order No. 2023 are "inherently unreasonable."[581] The mere existence of past study delays, under a standard that allowed transmission providers significant discretion to extend those deadlines, does not show that any given set of deadlines to perform studies are unachievable or

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[580] NYISO discusses the effects of increased deposits, but Order No. 2023 also imposed site control requirements and withdrawal penalties that we expect will also deter speculative interconnection requests. Moreover, the MISO PowerPoint presentation that NYISO cites is best understood as reflecting MISO's view that more stringent queue requirements will help reduce speculative interconnection requests. *See* MISO Presentation, Generator Interconnection Queue Improvements, Planning Advisory Committee (July 19, 2023), https://cdn.misoenergy.org/20230719%20PAC%20Item%2006%20GI%20Queue%20Improvements%20Proposal629634.pdf (proposing to increase such requirements and referring to its current tariff rules as incentivizing speculative projects because they require a "small financial commitment" and have "ineffective withdrawal rules" that allow withdrawn requests "to get most of their money back, with interest, due to lack of penalties").

[581] Indicated PJM TOs Rehearing Request at 30.

unreasonable.[582] It particularly does not demonstrate that the deadlines for the specific *pro forma* LGIP process set forth in Order No. 2023, with the accompanying reforms to improve efficiency, are not reasonable.[583]

334. Dominion, MISO TOs, and NYISO assert that the ability to extend a study deadline for 30 days by mutual agreement of the transmission provider and all interconnection customers with interconnection requests in the relevant study will not be effective in practice.[584] They contend that interconnection customers lack incentives to agree to such an extension, particularly given that they will be the beneficiaries of any assessed penalty, and that it will be particularly infeasible to secure agreement from all interconnection customers to such an extension.

335. We are not persuaded by speculation that interconnection customers will adopt an unreasonably adversarial approach to requests for modest extensions to study deadlines. The interconnection process is one that, by its nature, tends to require cooperation and collaboration, and all parties have a continuing interest in this process functioning

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[582] Indeed, this is a one-size-fits-all argument that could be directed toward essentially any effort to impose an interconnection study deadline as a means of expediting the study process.

[583] Indicated PJM TOs also cite new NERC standards that may require additional study elements, broadly claiming that this will add to transmission providers' workloads, Indicated PJM TOs Rehearing Request at 30-31, but do not explain why any additional workload associated with these standards would render the deadlines set in Order No. 2023 unjust and unreasonable.

[584] Dominion Rehearing Request at 24; MISO TOs Rehearing Request at 18-19; NYISO Rehearing Request at 35.

smoothly.[585] Moreover, because interconnection customers have a particular interest in reliable interconnection studies, interconnection customers are not well served by refusing to accede to a transmission provider's reasonable request for an extension that is necessary, particularly in light of unique circumstances, to ensure accurate study results.[586] Likewise, there may be circumstances in which a modest extension of a cluster study would save time, for all interconnection customers in a study, for example by helping reduce the need for a restudy.[587] The prospect that interconnection customers

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[585] *See, e.g.*, EEI Initial Comments at 16 (describing the interconnection study process as benefitting from collaboration, in which transmission providers "work with project developers as they refine their requests, redesign projects, or modify study parameters for optimum results"); Eversource Initial Comments at 25 (similarly describing interconnection as a collaborative process between the interconnection customer and transmission provider); Indicated PJM TOs Rehearing Request at 37 (describing the "cooperative engagement" between transmission owners and interconnection customers and providing examples of such collaboration to resolve issues arising in the study process).

[586] *See, e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at P 30 (noting that the "vast majority of commenters overwhelmingly agree" that reform of the Commission's *pro forma* interconnection procedures and agreements is necessary "to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner"); MISO Initial Comments at 78 ("Errors or omissions discovered later may drive the need for a restudy, causing unscheduled surprises for Interconnection Customers who have already made decisions based on the results of a rushed study."); SPP Initial Comments at 12 ("Interconnection Customers have expressed to SPP that timely results that are inaccurate are useless and that it is imperative that they be able to rely on study results to make sound business decisions."); *cf.* Order No. 2023, 184 FERC ¶ 61,054 at P 1007 (rejecting arguments that imposing study deadlines and penalties will necessarily reduce study accuracy).

[587] In addition, any such extension would be time-limited and transparent, allowing interconnection customers to better plan around such extensions as compared to ad hoc self-extensions under the reasonable efforts standard. *Cf.* Fervo Reply Comments at 7-8

may receive penalties for late studies is not likely to override this need for collaboration and cooperation, particularly given that any award of penalties to interconnection customers is uncertain (given the availability of an appeal) and any such penalties will be split among all interconnection customers involved in the study. Moreover, this 30-day extension is just one safeguard among several, to extend deadlines that we generally conclude should be achievable on their own terms, such that we would still reach the same result even if invocation of this safeguard turns out to be uncommon in practice.

336. NYISO challenges the 10 day grace period, under which no penalties would be assessed for a study delayed by no more than 10 business days, claiming that this grace period does not provide meaningful relief to transmission providers that will study large numbers of interconnection requests.[588] This challenge is not persuasive. The grace period is one component of the penalty structure—and, again, one safeguard among several—through which Order No. 2023 strikes an appropriate balance between creating an incentive for transmission providers to help ensure that interconnection studies are completed in a timely fashion, while not being punitive. Specifically, the grace period, in

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(explaining that under the status quo with the reasonable efforts standard, interconnection customers face uncertainty, which imposes barriers to entry); NARUC Initial Comments at 14 (explaining that missed deadlines create uncertainty in bringing new generation online); SEIA Initial Comments at 32 (noting that backlogs deprive developers of needed business certainty, which can lead to issues like losing site control rights and financing).

[588] NYISO Rehearing Request at 35 (arguing also that the grace period should not be uniform given variability in study workloads and challenges to the study deadlines themselves).

particular, provides a "level of flexibility for transmission providers to address unforeseen circumstances or complexities that arise in the study process,"[589] which may necessitate modest delays. This grace period was not intended to provide an automatic, lengthy extension to the study deadlines.

337. Likewise, the longer transition period the Commission adopted does not, as NYISO claims, simply "postpone[ ] the RTO/ISO penalty cost recovery problem."[590] Rather, the transition period[591] is another measure to ensure that the structure adopted in Order No. 2023 provides incentives that are appropriate, but fair. The transition period allows time for transmission providers to address and adapt to the requirements of Order No. 2023, reduce backlogs, and address other issues (which may include, for example, FPA section 205 filings to address RTO/ISO penalty cost recovery).[592] The transition process will thus help ensure that the standards for timeliness set by Order No. 2023 are reasonably achievable before penalties are assessed. Neither of NYISO's arguments regarding the ten-day grace period or the transition period demonstrates any defect in Order No. 2023's deadline and penalty structure.

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[589] Order No. 2023, 184 FERC ¶ 61,054 at P 981.

[590] NYISO Rehearing Request at 37.

[591] Under the transition process, in Order No. 2023, the Commission specified that transmission providers already using a cluster study process will not be subject to penalties until the third cluster study cycle after the transmission providers' compliance filing becomes effective. Order No. 2023, 184 FERC ¶ 61,054 at P 980.

[592] *Id.* PP 979-80.

ii. Reasonableness of the Study Delay Penalty and Appeal Structure

(a) Requests for Rehearing

338. Many of the rehearing requests state that Order No. 2023 assigns penalties to transmission providers without an assessment of fault, as a "strict liability" matter, until they demonstrate their lack of fault through the appeals process.[593] These rehearing requests variously contend that this is unjust and unreasonable, arbitrary and capricious, unsupported by substantial evidence, inequitable, and/or offends due process. Many of them object to this framework as placing the burden on the transmission provider or transmission owner to demonstrate an entitlement to relief from the assessed penalty.

339. Avangrid argues that the Commission has deemed transmission providers who fail to meet the deadlines set forth in Order No. 2023 guilty unless they can prove their innocence and thereby denies transmission providers and transmission owners due process.[594] Avangrid argues that the appeals process is inequitable because it does not

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[593] *See, e.g.*, MISO TOs Rehearing Request at 27-29; NYISO Rehearing Request at 29-30 (arguing that "[t]he Commission may not reasonably presume that RTOs/ISOs should be penalized at the same time that it recognizes that overwhelming record evidence demonstrates that other parties will often be solely or substantially responsible for delays" and that RTO/ISO interconnection metrics compliance reports under Order No. 845 are specific evidence of how a variety of complex and interactive factors can cause study delays); NYTOs Rehearing Request at 11-12, 23 (citing factors that may drive delays due to following Good Utility Practice; asserting that only if the variables outside of a transmission provider's control are removed can the Commission have a sufficient evidentiary basis to determine the reasonable efforts standard is unjust and unreasonable); PacifiCorp Rehearing Request at 8-9.

[594] Avangrid Rehearing Request at 12-13.

ensure exoneration where a transmission provider is not at fault, such as in the case of *force majeure*.[595] Avangrid further asserts that the lack of clarity concerning when relief will be granted violates the fair notice doctrine and renders the appeals process unjust and unreasonable.

340. Indicated PJM TOs argue that the imposition of penalties subject to an appeal mechanism applying a good cause standard contravenes due process requirements.[596] They assert that it is not clear how the appeals process would apply to transmission owners seeking relief from a penalty after an RTO or ISO has determined that the transmission owner is responsible for some or all of the penalty.[597] Indicated PJM TOs claim that an RTO/ISO assignment of a penalty cannot receive deference in a proceeding where a transmission owner seeks relief from a penalty.[598]

341. MISO TOs argue that the Commission erred in creating a "no-fault, strict liability regime" whereas tort law reflects that strict liability is only warranted in circumstances

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[595] *Id.* at 15.

[596] Indicated PJM TOs Rehearing Request at 23.

[597] *Id.* at 23-24 (arguing that it is "not clear whether the Commission intends to impose the burden of proof on transmission owners to demonstrate that the assignment of costs by the transmission provider was unreasonable" or whether transmission owners can show good cause by showing that the transmission provider or another entity caused the delay).

[598] *Id.* at 24 (arguing that the appeals process must be conducted *de novo*); *see also id.* at 24-25 (asserting that the other safeguards to the imposition of penalties that the Commission adopted in Order No. 2023 are inadequate to alleviate these concerns).

involving very dangerous activities, such as product liability for harm caused.[599] MISO TOs also claim that the penalty and appeals structure conflicts with Commission penalty procedures in enforcement cases by imposing a penalty automatically unless the transmission provider pursues an appeal, resulting in a deprivation of due process. They further contend that the appeals process is lacking in detail and fails to address these concerns because it puts the onus on the transmission provider to appeal penalties—which the Commission does not review *de novo*—and requires transmission providers to expend resources to seek relief for penalties caused by the actions of others.[600]

342. PacifiCorp claims that "[t]he assessment of a civil penalty before any agency adjudication is made violates the due process clause of the Fifth Amendment to the U.S. Constitution."[601] PacifiCorp also objects that the transmission provider has the burden to show "good cause" and that the Commission suggested that "if the transmission provider offers proof that it did not cause the study delay at issue, that is only 'potentially'

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[599] MISO TOs Rehearing Request at 31-32 (citing *Acosta Orellana v. CropLife Int'l*, 711 F. Supp. 2d 81, 105 (D.D.C. 2010)).

[600] *Id.* at 34-36 (arguing that this inappropriately shifts the Commission's burden to prove a violation to the transmission provider to disprove it and asserting that it is not clear under what statutory provision, or under what authority, the penalty appeal will be conducted).

[601] PacifiCorp Rehearing Request at 8-9; *see also id.* at 4-5 ("The Final Rule violates the due process clause of the Fifth Amendment to the U.S. Constitution by assessing penalties with no development of a factual record about whether the transmission provider did anything wrong.").

exculpatory."[602] PacifiCorp further contends that Order No. 2023 lacks a cogent explanation of the showing necessary to avoid a penalty, which offends due process requirements and renders the appeal a moving target.[603]

343. NYISO contends that the appeals process wrongly places the burden on RTOs/ISOs to demonstrate that they are not at fault, when there are good reasons to anticipate that RTOs/ISO will not actually be responsible for many study delays.[604] Moreover, NYISO asserts that, while the Commission has set forth certain factors it will consider, it does not provide guidance as to what exactly a transmission provider must do to establish good cause for relief.[605]

344. WIRES states that the penalty structure adopted by Order No. 2023 is not just and reasonable because it is a strict liability approach that sanctions transmission providers for missing deadlines for reasons beyond the control of those providers.[606] WIRES

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[602] *Id.* at 9 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 993).

[603] *Id.* (asserting that the Commission has well-established standards for tariff waivers but has not been clear that the traditional waiver standards apply).

[604] NYISO Rehearing Request at 32-33 (noting that due process requirements dictate fair and proportionate penalties, rather than excessively punitive penalties) (citing *Enf't of Statutes, Ords., Rules & Reguls.*, 132 FERC ¶ 61,216, at P 222 (2008); *Enf't of Statutes, Reguls. & Ords.*, 123 FERC ¶ 61,156, at PP 50-71 (2008)).

[605] *Id.* at 33-34 (claiming that the burden will be "unreasonably heavy" given that the Commission decided not to adopt a structure providing for penalties only when a factor causing delay can conclusively be determined to be within a transmission provider's control).

[606] WIRES Rehearing Request at 6-7.

asserts that strict liability for penalties can only reasonably be imposed if transmission providers have full control over the interconnection study process, but the Commission has acknowledged that this is not the case.[607]

345. NYTOs argue that the deadline and penalty structure, with the right to seek relief through an appeal, is vague and impermissibly presumes fault without conducting a *de novo* review of whether a penalty is warranted.[608] NYTOs claim that, in Order No. 2023, the Commission has reserved its discretion to uphold a penalty even in the absence of substantial evidence that a sanctioned transmission provider was at fault, and that the Commission will grant whatever relief it determines is appropriate.[609]

346. PJM argues that the Commission failed to adequately explain its refusal to adopt a structure in which transmission providers incur penalties only where a study delay is due to a factor that can be conclusively demonstrated to be within a transmission provider's control, and that it failed to show that this approach was consistent with due process.[610] PJM asserts that the appeals process is not just and reasonable and violates the

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[607] *Id.* (arguing that penalties cannot reduce delays that occur for reasons beyond the transmission providers' control).

[608] NYTOs Rehearing Request at 12-13.

[609] *Id.* at 12; *see also id.* at 27 (asserting that Order No. 2023 does not confirm that transmission providers will not be penalized when a delay is not their fault, and that the cost of an appeal may cause transmission providers to accede to minor penalties).

[610] PJM Rehearing Request at 31 (arguing that the Commission has recognized the need to protect due process rights in other instances; citing *Enf't of Statutes, Reguls. & Ords.*, 123 FERC ¶ 61,156 at PP 40, 51; 16 U.S.C. § 825o-1).

constitutional guarantee of due process if it only provides due process "to some extent."[611] PJM argues that "[i]f a transmission provider knows it will be penalized for *any* delay in interconnection studies regardless of its role in the delays, and will have to appeal that penalty and demonstrate that the penalty imposed on it should not be assessed, i.e., that it is guilty until it can prove its innocence, it might reasonably ask what deterrence or incentive purpose the penalty actually serves."[612]

347. Certain of the rehearing requests also assert that the appeals process set forth in Order No. 2023 is too vaguely defined. Avangrid refers to the appeal as a "vaguely-defined waiver process."[613] MISO TOs assert that "the appeals process is rife with ambiguity, making it unworkable and overly time-consuming" and lacks detail on the process for an appeal, including the form and forum, whether interventions will be permitted, whether discovery will be allowed, and under what statutory provision the appeal is conducted.[614] NYISO asserts that the Commission did not indicate whether it would use fact-finding neutrals, paper hearing procedures, or some other method to conduct appeals of penalties, or how appeals would be further reviewed on rehearing or

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[611] *Id.* (asserting that Order No. 2023 stated that "details such as whether the penalized transmission provider actually is responsible for the study delay are 'addressed to some extent through the ability to appeal.'" (quoting Order No. 2023, 184 FERC ¶ 61,054 at P 989)).

[612] *Id.* at 31-32.

[613] Avangrid Rehearing Request at 12-13.

[614] MISO TOs Rehearing Request at 35-36.

under the APA.[615] NYTOs state that the Commission failed to explain how the process will work, including whether—in assessing good cause—the Commission will apply the standard applicable to tariff waivers, the burdens of proof, how genuine issues of material fact will be adjudicated, clear standards for granting relief, and the parameters of the appeals process.[616]

348. A number of the rehearing requests assert that the Commission should have adopted exceptions to the assessment of penalties for failure to meet the required deadlines. Several of these rehearing requests challenge the Commission's decision not to provide an exception to such penalties for circumstances involving *force majeure*.[617]

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[615] NYISO Rehearing Request at 33-34.

[616] NYTOs Rehearing Request at 24-25 & n.67 (asserting that courts have found that due process requires hearing procedures for the adjudication of genuine disputes of material fact; arguing that the "good cause" standard is a novel ratemaking standard that the Commission fails to justify).

[617] *See* Avangrid Rehearing Request at 15 (arguing that the appeals process is inequitable because it does not ensure exoneration where a transmission provider is not at fault, such as in the case of *force majeure* or where the delay may be due to multiple factors); EEI Rehearing Request at 8 (arguing that the Commission failed to provide an exception for *force majeure*, which has a specific definition in the *pro forma* LGIP and *pro forma* LGIA reflecting circumstances beyond a parties' control, and asserting that where a transmission provider has declared *force majeure* assessing a penalty and requiring an appeal is an unnecessary burden and will take time away from completing pending studies); NYISO Rehearing Request at 37-38 (arguing that the Commission erroneously failed to adopt the *force majeure* exception given the purported flaws associated with the appeals process); NYTOs Rehearing Request at 27 (requesting clarification on this point); PJM Rehearing Request at 31-32 ("Moreover, the Final Rule fails to explain how removing *force majeure* as a reason penalties would not apply and refusing to impose penalties 'only where a factor can be conclusively demonstrated to be within a transmission provider's control' is logical").

PacifiCorp argues, more broadly, that because study delays are often driven by third parties or factors beyond the control of transmission providers, the Commission should have adopted self-effectuating exemptions for study delays that are outside of a transmission provider's control.[618] In support, PacifiCorp contends that failing to provide such exemptions "(1) ignores the frequency at which delays are caused by third parties and; (2) mistakenly assumes: (a) transmission providers can take actions to mitigate delays caused by third parties, and (b) it is prudent for transmission providers to increase expenditures in an effort to offset causes for delays that are outside of their control."[619]

349. Indicated PJM TOs and NYTOs also take issue with the Commission's statement that appeals of penalties for missing study deadlines "should not be filed under FPA section 206."[620] Indicated PJM TOs assert that, to the extent that the Commission intends to withhold the right to seek relief under FPA section 206, "[t]he Commission cannot deprive any aggrieved party of the right to file a complaint under FPA section 206"[621] or

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[618] PacifiCorp Rehearing Request at 13-15 ("Transmission providers therefore should not: (1) be penalized if, as portrayed in the example above, it takes more than 150 Calendar Days to complete as the study due to responding to such interconnection customer actions; or (2) expend resources and effort to submit an appeal when the transmission provider is prudently incorporating changes from one or more interconnection customers . . . .").

[619] *Id.* at 15.

[620] Indicated PJM TOs Rehearing Request at 26 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 987 n.1911); NYTOs Rehearing Request at 23.

[621] Indicated PJM TOs Rehearing Request at 26 (citing *Papago Tribal Util. Auth. v. FERC*, 723 F.2d 950, 953 (D.C. Cir. 1983) (noting the Commission's "indefeasible

limit the scope of such challenges.[622] NYTOs state that "the appeals process specified by the Order, which requires appeals to be pursued under the Commission's procedural rules and not under section 206, effectively imposes a mandatory waiver of transmission providers' statutory rights, which is contrary to law."[623]

350. Many of the rehearing requests argue that replacing the reasonable efforts standard with the deadline and penalty structure set forth in Order No. 2023 will have negative, unintended consequences. Avangrid contends that this structure will result in transmission providers focusing on "processing speed and 'checking the boxes' specified in Order No. 2023 over providing flexibility and collaboration with interconnecting generators on challenging issues unique to their situations."[624] Indicated PJM TOs add that this structure will divert attention from optimal system planning.[625] MISO TOs and

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right . . . under [FPA section] 206 to replace rates that are contrary to the public interest"); *Me. Pub. Util. Comm'n v. FERC*, 454 F.3d 278, 283 (D.C. Cir. 2006) (same)).

[622] *Id.* ("The scope of a challenge could not be limited by the factors the Commission identified as affecting a "good cause" determination, nor could it be limited to whether the transmission owner caused or contributed to the study delay.").

[623] NYTOs Rehearing Request at 23 (citing *Atl. City Elec. Co. v. FERC*, 295 F.3d 1, 10 (D.C. Cir. 2002) (*Atl. City I*)); *see also id.* at 13.

[624] Avangrid Rehearing Request at 13.

[625] Indicated PJM TOs Rehearing Request at 34-37 (asserting that transmission providers have no incentive to delay interconnection studies and that it is "is poor policy on the part of the Commission to confront transmission planners with the potential option of either avoiding concrete penalties associated with a strict arbitrary deadline or taking more time to ensure that a study is complete and comprehensive" and noting the shortage of qualified engineers).

SPP emphasize that interconnection studies must be conducted with precision to avoid inefficiency or costly mistakes.[626] NYISO argues that this structure will incentivize transmission providers to prioritize meeting deadlines over ensuring the quality and completeness of studies and that inferior studies conducted under time pressure could lead to suboptimal results or negatively impact reliability.[627] WIRES further asserts that this structure will require transmission providers to take a more rigid approach to managing the interconnection queue, reducing flexibility to allow interconnection customers to redesign projects or modify their requests, and inhibit efforts to streamline the interconnection process.[628]

351. Certain rehearing requests assert that the deadline and penalty structure in Order No. 2023 will foster a combative atmosphere and discord, potentially leading to delays. Avangrid asserts that this structure incentivizes transmission providers to no longer use reasonable efforts to work with interconnection customers to fulfill the completeness of their application information and improve effectiveness, but instead declare

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[626] MISO TOs Rehearing Request at 10, 16-17; SPP Rehearing Request at 6, 8-9 (discussing examples of the consequences of inaccurate or suboptimal studies).

[627] NYISO Rehearing Request at 27-29 (arguing that the Commission failed to provide a reasoned response to these concerns, but instead dismissed them by asserting transmission providers can increase timely study processing without necessarily facing such tradeoffs); *see also id.* at 19 (arguing that this problem is particularly acute for NYISO "because New York State is pursuing what is arguably the most ambitious clean energy agenda in the country," driving high volumes of interconnection requests and that New York City also presents the most complex reliability challenges in the country).

[628] WIRES Rehearing Request at 7-8.

interconnection customers in breach for delays and remove them from the interconnection process.[629] PJM asserts that the Commission failed to address arguments that this structure would undermine collaboration, with RTOs and transmission owners instead focusing on the need to simply protect against legal exposure.[630] Indicated PJM TOs assert that this structure will lead to acrimony—particularly in the regions where the interconnection queues are the longest—that will counter any efficiency gains.[631] SPP similarly argues that Order No. 2023 leaves open the question of how transmission providers would recover study delay penalties assessed to them, and could erode the working relationship of RTOs and the transmission owners in their footprint.[632]

352. Several of the rehearing requests argue that the deadline and penalty structure will create administrative or other burdens on transmission providers, which may be counterproductive because it will consume the same resources that would otherwise be used to perform interconnection studies. AEP argues that study delay penalties will overcomplicate the interconnection process and increase litigation, administrative burden, and costs.[633] MISO TOs, PacifiCorp, and SPP claim that imposing penalties on

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[629] Avangrid Rehearing Request at 14-15.

[630] PJM Rehearing Request at 32-33.

[631] Indicated PJM TOs Rehearing Request at 37-38.

[632] SPP Rehearing Request at 8.

[633] AEP Rehearing Request at 28-29.

transmission providers will make it more difficult to complete studies in a timely fashion because such penalties will deprive them of funds that could be used for qualified engineering personnel, and pursuing an appeal will create administrative burdens.[634] PJM claims that the Commission failed to address difficulties in assigning fault for delays, which will likely lead to litigation.[635] PJM also argues that the penalty structure will add time consuming study and reporting requirements, including administration to track study metrics, pursue penalty appeals, and collect and disburse penalty amounts. Indicated PJM TOs assert that the burdens imposed by the deadline and penalty structure will further strain already scarce utility resources, given other industry trends that will likely increase transmission providers' workloads.[636]

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[634] MISO TOs Rehearing Request at 17-18 (noting also the shortage of qualified personnel and that the Commission did not point to evidence of better software that would allow transmission providers to escape study delay penalties); *id.* at 35 (noting that the same personnel that perform interconnection studies will likely be the fact witnesses in any Commission penalty appeal proceeding); PacifiCorp Rehearing Request at 11-13 (arguing that it is highly likely that appeals will be filed faster and more frequently than the Commission can process them and noting that interconnection customers will be incentivized to protest appeals, which will increase administrative and resource costs of pursuing such appeals); SPP Rehearing Request at 7, 9 (arguing also that this will create a litigious environment that threatens timely study completion).

[635] PJM Rehearing Request at 32-33.

[636] Indicated PJM TOs Rehearing Request at 38 (citing the need to analyze advanced transmission technologies and increased burdens surrounding modeling, and also noting that the same staff who are responsible for processing interconnection requests will need to be deployed to address disputes regarding interconnection study timeliness).

353. Indicated PJM TOs also note that managing new study deadlines by deploying additional resources will come at a cost to transmission providers.[637] Indicated PJM TOs contend that the Commission failed to consider the extent of such costs and their impacts in Order No. 2023. Indicated PJM TOs also argue that the Commission failed to respond to the argument that the NOPR misrepresented statements by Utah Public Service Commission Chairman LeVar as providing support for study delay penalties.

354. Indicated PJM TOs and NYTOs assert that Order No. 2023's deadline and penalty structure will negatively affect transmission providers' own efforts at reforming the interconnection process.[638] Indicated PJM TOs claim that imposing this structure on regions that have already adopted cluster-study processes, but chose to retain the reasonable efforts standard, sends the message that their efforts to reach consensus as to appropriate reforms do not matter.[639] NYTOs assert that strictly enforcing deadlines and penalties, without exceptions, will hinder ongoing regional queue reform efforts, perhaps stifling innovation and necessary changes to address circumstances applicable in each region.[640]

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[637] *Id.* at 39-40.

[638] *Id*. at 16-17; NYTOs Rehearing Request at 27.

[639] Indicated PJM TOs Rehearing Request at 17.

[640] NYTOs Rehearing Request at 27.

355. Dominion contends that the Commission failed to consider whether the study deposits assessed for interconnection studies would be sufficient to support the increased personnel costs required to complete those studies by the deadlines set forth in Order No. 2023.[641] Dominion further claims that there may be perverse incentives for interconnection customers to delay the completion of studies, given that customers can benefit from the penalty funds awarded to them, and Order No. 2023 does not penalize such customers for delays.

356. Certain of the rehearing requests also assert that the deadline and penalty structure set forth in Order No. 2023 is one-sided, and therefore unduly discriminatory or unjust and unreasonable, noting that interconnection customers (or other parties) are not subject to potential penalties for the role they may play in delayed interconnection studies.[642] Avangrid also contends that Order 2023's incentives are one-sided, with interconnecting generators having both "carrot" incentives (in the form of profits from having generation interconnected) and "stick" incentives, but transmission providers and transmission owners, who perform generator interconnection activities (often on a non-profit basis) are

[641] Dominion Rehearing Request at 23-24 ("There is also no discussion in Order No. 2023 as to how cost recovery for these expenses would be recovered other than through the study deposits."); *see also id.*, attach. A (Affidavit of James R. Bailey).

[642] *See* Avangrid Rehearing Request at 14; Indicated PJM TOs Rehearing Request at 27-29; *id.* at 29 (arguing that while modification of Order No. 2023 to subject interconnection customers to penalties is necessary, it would only complicate the process further and is an additional reason the penalty structure is not workable); MISO TOs Rehearing Request at 28-29; NYTOs Rehearing Request at 23-24.

limited to avoiding the "stick" of a study delay penalty.[643] Indicated PJM TOs assert that the Commission's reasoning for declining to assess such penalties against interconnection customers—that transmission providers may deem non-compliant interconnection requests withdrawn—underestimates the difficulty of removing an interconnection customer that fails to meet deadlines from the queue, particularly given that customers may seek redress at the Commission.[644]

357. Avangrid, MISO TOs, and NYTOs assert that the assessment of penalties for failing to meet a study deadline without regard to fault is confiscatory, asserting that this renders the penalties regulatory takings in violation of the Takings Clause of the Constitution.[645] Avangrid and NYTOs further contend that the penalty framework may potentially deny recovery of costs incurred for interconnection studies performed using good utility practice.[646] MISO TOs assert that the penalty framework may require

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[643] Avangrid Rehearing Request at 7.

[644] Indicated PJM TOs Rehearing Request at 28.

[645] Avangrid Rehearing Request at 16 (citing *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944) (*Hope*); *Ameren Servs. Co. v. FERC*, 880 F.3d 571, 580 (D.C. Cir. 2018) (*Ameren*)); MISO TOs Rehearing Request at 33-34; NYTOs Rehearing Request at 25-26.

[646] Avangrid Rehearing Request at 16; NYTOs Rehearing Request at 25-26 ("In properly balancing the interests of investors and consumers, the Commission is required to allow the public utility transmission provider to recover its reasonably incurred operating expenses." (citing *Hope*, 320 U.S. at 603; *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of the State of W.Va.*, 262 U.S. 679, 690 (1923); *Ameren*, 880 F.3d at 580, 581-82, 584-85; *Jersey Cent. Power & Light Co.*, 810 F.2d 1168, 1175 (D.C. Cir. 1987) (*Jersey Cent.*)); *see also id.* at 28 ("penalties are shifted to

transmission providers to perform interconnection studies "*for free*, simply if they miss a deadline."[647]

(b) Determination

358. We disagree with the rehearing requests that argue that Order No. 2023's penalty structure is unjust and unreasonable, violates due process, or is otherwise inequitable because it is a "strict liability" structure that assigns penalties to transmission providers regardless of fault. To begin with, the imposition of standards of performance—namely, deadlines—on transmission providers to conduct interconnection studies was based on the need for reform to ensure the timely processing of such studies given the control that transmission providers exercise over the study process. Likewise, the deadlines were selected based on timeframes that, as a general matter, should be reasonably achievable for transmission providers under the *pro forma* LGIP process, including other reforms adopted in Order No. 2023. As a result, based on the record and the Commission's findings in this proceeding, we have concluded that a failure to meet these deadlines presumptively reflects that a transmission provider has failed to respond appropriately to the need for timely interconnection study processing such that a penalty is warranted in

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transmission owner members of RTOs/ISOs without regard to fault, equity and the Takings Clause demand that the transmission owners should be allowed to recover such costs").

[647] MISO TOs Rehearing Request at 33-34 ("The FPA does not permit the Commission to compel utilities to provide service to others for free." (citing *Ameren*, 880 F.3d at 582)).

order to ensure just and reasonable rates. That penalty reduces what transmission providers can charge for interconnection studies that fail to meet the performance standards set forth in Order No. 2023.

359. Moreover, the characterization of this structure as "strict liability" is inaccurate because section 3.9(3) of the *pro forma* LGIP provides a robust framework for transmission providers to appeal any study delay penalties to the Commission. Under that framework, and unlike a "strict liability" regime, transmission providers can raise case-specific facts and circumstances for the Commission's consideration in determining whether there is good cause to grant relief from a penalty. The list of factors that the Commission set forth in Order No. 2023 reflects that transmission providers have the opportunity to demonstrate that a penalty for a late study is not warranted, including based on considerations of the transmission provider's conduct or lack of fault for any delay.[648] In fact, the Commission will consider affording relief based not just on the transmission provider's conduct in any particular study, but also their efforts to prevent future delays. This list of factors, while reflecting the considerations that the Commission deems most likely to be pertinent to establishing good cause for relief from a penalty, is also non-exhaustive such that transmission providers may raise, for the

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[648] Order No. 2023, 184 FERC ¶ 61,054 at P 987 ("[T]he Commission may consider, among other factors: (1) extenuating circumstances outside the transmission provider's control, such as delays in affected system study results; (2) efforts of the transmission provider to mitigate delays; and (3) the extent to which the transmission provider has proposed process enhancements either in the stakeholder process or at the Commission to prevent future delays . . . .").

Commission's consideration, any other circumstances that they deem pertinent to a request for relief.[649] Any final Commission order finding that there is not good cause for relief from a penalty is subject to rehearing, as appropriate, and may also be subject to judicial review, pursuant to FPA section 313.[650]

360. Arguments in the rehearing requests that the deadline and penalty structure set forth in Order No. 2023 violates due process are not well developed, as they largely fail to address the governing legal standards,[651] or explain how Order No. 2023 is inconsistent with judicial or Commission precedent,[652] in this respect. Moreover, the Commission's adoption of the deadline and penalty structure in Order No. 2023 reflects an exercise of its ratemaking authority under FPA section 206, setting performance standards associated with the conduct of interconnection studies and financial

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[649] In this respect, the "good cause" standard allows the Commission to consider the totality of the circumstances resulting in any delay, as appropriate given the variety of facts and circumstances that may arise; balances competing interests while addressing concerns that the Commission provide for adequate due process and fact-finding; and will help avoid punitive results. *See id.* PP 987-89; *cf.* NYTOs Rehearing Request at 24 (arguing that the "good cause" standard is a novel standard that the Commission in Order No. 2023 failed to justify).

[650] 16 U.S.C. § 825*l* (setting forth the procedures for a party aggrieved by an order issued by the Commission to obtain judicial review of such orders).

[651] *See, e.g.*, *Mathews v. Eldridge*, 424 U.S. 319 (1976) (*Mathews*).

[652] A limited exception is that certain of the rehearing requests contend that the Commission's approach is inconsistent with its enforcement policies. *See* NYISO Rehearing Request at 29-30; PJM Rehearing Request at 31; *infra* P 417 (explaining that those enforcement policies are not applicable in the ratemaking context).

consequences for the failure to meet those standards.[653] In this context, the Commission exercised its discretion to adopt an appeals process. Although commenters have not established what, if any, constitutional due process rights they might possess in this context, we need not reach this question. Rather, based on the arguments that have been presented and the record before us, we find that the deadline and penalty structure in Order No. 2023 does not violate any transmission providers' potential rights to due process and is just and reasonable.

361. In particular, even assuming *arguendo* that transmission providers have due process rights relating to the appeals process the Commission chose to adopt in Order No. 2023, the hallmarks of due process are fair notice and an opportunity to be heard.[654] Transmission providers have received fair notice and an extensive opportunity to be heard through this notice-and-comment rulemaking proceeding as to, among other things, the conduct that (absent an appeal demonstrating good cause for relief) will result in a penalty,[655] the amount of the potential penalty,[656] and the ability to seek relief from a

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[653] *See supra* section II.D.1.c; *infra* section II.D.1.c.iv.

[654] *Mathews*, 424 U.S. at 348-49 ("The essence of due process is the requirement that a person in jeopardy of serious loss (be given) notice of the case against him and opportunity to meet it. All that is necessary is that the procedures be tailored, in light of the decision to be made, to the capacities and circumstances of those who are to be heard to insure that they are given a meaningful opportunity to present their case." (citations and quotation marks omitted)).

[655] *See* Order No. 2023, 184 FERC ¶ 61,054 at PP 962-63, 979-83.

[656] *See id.* PP 962, 973, 984.

penalty through the appeals process.[657] The appeals process provides a further opportunity, prior to any obligation to distribute an assessed study penalty,[658] for transmission providers to be heard regarding whether relief from a particular assessment of a penalty, on the facts of a given case, is warranted.[659] A party aggrieved by a Commission order addressing such an appeal—which order will state the Commission's reasoning for any denial of relief—has yet another opportunity to be heard by seeking rehearing of that order.

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[657] *See id.* P 987.

[658] *See id.* ("The filing of an appeal will stay the transmission providers' obligation to distribute the study delay penalty funds to interconnection customers until 45 calendar days after (1) the deadline for filing a rehearing request has ended, if no requests for rehearing of the Commission's decision or the appeal have been filed, or (2) the date that any requests for rehearing of the Commission's decision on the appeal are no longer pending before the Commission.").

[659] *See Opp Cotton Mills, Inc. v. Adm'r of Wage & Hour Div.*, 312 U.S. 126, 152–53 (1941) ("The demands of due process do not require a hearing, at the initial stage or at any particular point or at more than one point in time in an administrative proceeding so long as the requisite hearing is held before the final order becomes effective.").

362. Transmission providers also have fair notice[660] of the factors that the Commission has concluded are most likely to be pertinent to demonstrating good cause for relief.[661] We disagree that the Commission must specify "exactly" what transmission providers must do to demonstrate good cause for relief or that failing to do so renders the appeal impermissibly vague or a "moving target" that offends due process. The Commission's decisions addressing appeals will also be subject to the standard requirements of administrative law regarding reasoned decision-making, including that the Commission develop a consistent body of precedent in considering such appeals and explain any deviation from that precedent in a reasoned fashion.[662]

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[660] *See, e.g.*, *Fed. Express Corp. v. U.S. Dep't of Com.*, 39 F.4th 756, 773 (D.C. Cir. 2022) (explaining that "[t]he Due Process Clause's fair notice requirement generally requires only that the government make the requirements of the law public and afford the citizenry a reasonable opportunity to familiarize itself with its terms and to comply" and that even trained lawyers may find it necessary to consult legal dictionaries, treatises, and precedent); *Ramsingh v. Transport. Sec. Admin.*, 40 F.4th 625, 636 (D.C. Cir. 2022) ("An enactment violates the Due Process Clause if it is so vague that it fails to give ordinary people fair notice of the conduct it punishes, or so standardless that it invites arbitrary enforcement." (quotation marks omitted)).

[661] Order No. 2023, 184 FERC ¶ 61,054 at P 987. Having set forth these factors as most likely to be pertinent to a showing of good cause, we do not intend to apply our traditional waiver factors and confirm that the appeals process, as a tariff-specified mechanism to seek relief from penalties, is distinct from seeking a waiver of a tariff provision. *See* PacifiCorp Rehearing Request at 9-10 (asserting that the Commission had not been clear as to whether such waiver standards would apply).

[662] *See, e.g.*, *Fairless Energy, LLC v. FERC*, 77 F.4th 1140, 1147 (D.C. Cir. 2023) (agencies must generally conform to prior practice and decisions or explain the reasons for departure from precedent).

363. Indeed, arguments speculating that the Commission might, in the appeals process, decline to afford relief where a transmission provider believes the facts warrant relief, are premature. Arguments that the Commission should or must grant relief from a penalty (such that failure to do so is arbitrary and capricious, violates due process, or is otherwise unlawful) can be raised in the context of the appeals process in a given case, rehearing, and—if appropriate—judicial review, where the particular facts of the case at issue have been developed.[663] The Commission is not at this time presented with determining, and declines to prejudge, whether any particular set of facts will necessarily warrant relief, as such considerations are best left to a case-by-case assessment.[664]

364. A number of the rehearing requests assert that the appeals process impermissibly places the burden of seeking relief from a penalty on the transmission provider, rather

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[663] *See, e.g.*, *Ohio Forestry Ass'n, Inc. v. Sierra Club*, 523 U.S. 726, 732–33 (1998) (explaining that, in assessing whether an argument is ripe for resolution, courts consider "(1) whether delayed review would cause hardship to the plaintiffs; (2) whether judicial intervention would inappropriately interfere with further administrative action; and (3) whether the courts would benefit from further factual development of the issues presented"); *Abbott Lab'ys v. Gardner*, 387 U.S. 136, 148–49 (1967) (explaining that the basic rationale the ripeness requirement "is to prevent the courts, through avoidance of premature adjudication, from entangling themselves in abstract disagreements over administrative policies, and also to protect the agencies from judicial interference until an administrative decision has been formalized and its effects felt in a concrete way by the challenging parties").

[664] *See N. Y. State Comm'n on Cable Television v. F.C.C.*, 749 F.2d 804, 815 (D.C. Cir. 1984) ("The decision whether to proceed by rulemaking or adjudication lies within the Commission's discretion" (citing *N.L.R.B. v. Bell Aerospace Co. Div. of Textron*, 416 U.S. 267, 293 (1974))).

than requiring that the penalty be determined "de novo" before the Commission.[665] Here, too, the rehearing requests cite no legal authority supporting this argument that the appeals process, for this reason, is unjust and unreasonable, offends due process, or is otherwise unlawful. In Order No. 2023, the Commission determined, as a rulemaking and based on the record before it, that in the context of what constitutes a just and reasonable rate, failure to meet performance standards for the timely completion of interconnection studies warrants a penalty that effectively reduces what transmission providers can charge for interconnection studies that fail to meet those standards. The appeals process is a safeguard in which the transmission provider is the proponent of a requested order seeking relief from the penalty.[666] Requiring the transmission provider to demonstrate good cause for relief is also just and reasonable under the circumstances. The application of a penalty in defined amounts for failure to meet study deadlines, absent a showing of good cause for relief, helps to ensure that transmission providers are on notice of the instances when penalties apply and in what magnitude, and that they will

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[665] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 989 ("We disagree with Indicated PJM TOs that a complete *de novo* review is needed to assess study delay penalties. We find that the good cause standard adopted in this final rule provides an adequate framework through which the Commission can evaluate whether it is appropriate to grant relief from any applicable penalties.").

[666] *See, e.g.*, 5 U.S.C. § 556(d) ("Except as otherwise provided by statute, the proponent of a rule or order has the burden of proof."). Similarly, under FPA sections 205 and 206, the burden of proof typically rests with the proponent of a Commission order. *See* 16 U.S.C. § 824e(b); *FirstEnergy Serv. Co. v. FERC*, 758 F.3d 346, 353 (D.C. Cir. 2014); *Midwest Indep. Transmission Sys. Operator, Inc.*, 148 FERC ¶ 61,206, at P 51 (2014).

take seriously the prospect of a penalty. Transmission providers are also the entities with the most control over, and most knowledge regarding, the conduct of the study process and the reasons that the process may be delayed, such that it is reasonable to put the burden on transmission providers to establish a basis for relief from a penalty.

365. Likewise, we are not persuaded by arguments that, because there are other factors that can contribute to interconnection study delays, the imposition of penalties on transmission providers, under the structure set forth in Order No. 2023, is not just and reasonable. We disagree that adopting performance standards and incentives, in the form of deadlines and penalties, in Order No. 2023 cannot be just and reasonable unless the Commission first addresses and removes every other variable that may influence the timely completion of interconnection studies. As discussed above, the existence of multiple factors that may delay interconnection studies is a consideration that favors taking a comprehensive approach to address the unjust and unreasonable rates resulting from interconnection queue backlogs. Having found that the reasonable efforts standard was failing to ensure adequate incentives for transmission providers for timely study completion, we have also found that imposing deadlines[667] subject to penalties for late interconnection studies—subject to appropriate safeguards[668]—will help ensure that

[667] *See supra* section II.D.1.c.i (explaining why the selected deadlines are just and reasonable).

[668] *See supra* PP 359359, 361 (explaining, *inter alia*, that the appeal process is a safeguard to address considerations relevant to individual cases that may warrant relief).

transmission providers take the steps that are within their control to ensure study timeliness.

366. Arguments that the procedures for an appeal are too vaguely defined are not meritorious. The Commission has broad discretion as to procedural matters,[669] and we conclude that the exercise of that discretion on a case-by-case basis is appropriate, including because doing so will help avoid undue administrative burdens attendant to employing set procedures in appeals that may not require those procedures. Similarly, as to NYTO's argument that cases involving genuine disputes of material fact require hearing beyond evaluation of a written record,[670] the Commission can order such hearings in cases that require them. If parties believe that particular procedures in a given appeal are necessary or would be beneficial, they can so inform the Commission in the context of that case.[671]

367. We disagree with arguments that the Commission inappropriately discouraged transmission providers from filing appeals of study delay penalties under FPA section

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[669] *See Vt. Yankee*, 435 U.S. at 524-25 (agencies have broad discretion over the formulation of their procedures); *Mich. Pub. Power Agency v. FERC*, 963 F.2d 1574, 1578-79 (D.C. Cir. 1992) (the Commission has discretion to mold its procedures to the exigencies of the particular case); *Woolen Mill Assoc. v. FERC*, 917 F.2d 589, 592 (D.C. Cir. 1990) (the decision as to whether to conduct an evidentiary hearing is in the Commission's discretion).

[670] *See* NYTO Rehearing Request at 24 n.67.

[671] Similar to our reasoning above, *see supra* P 363, arguments contending that a particular procedure may be required in a particular case are premature.

206. Order No. 2023 only clarified that, when a transmission provider that conducts interconnection studies appeals study delay penalties incurred automatically under 18 CFR § 35.28(f)(1)(ii) or § 3.9 of the *pro forma* LGIP, that appeal should not be filed under FPA section 206.[672] The appeals process supplements, rather than diminishes, the transmission provider's ability to make a section 206 filing. To the extent that commenters are concerned about the ability of a transmission owner to challenge a penalty assigned to it by a transmission provider,[673] we note that nothing in Order No. 2023 prevents any entity from protesting a transmission providers' FPA section 205 filing that seeks to assign penalties or seeks to create a default structure for recovery of penalty costs. Nor does Order No. 2023 prevent any entity from challenging a transmission provider's assignment of study delay penalties to that entity under FPA section 206. Nothing in Order No. 2023 prevents any entity from exercising any statutory filing rights.

368. We also disagree with NYTOs' suggestion that the requirement for transmission providers to pursue appeals under the Commission's procedural rules and not under FPA section 206 "effectively imposes a mandatory waiver of transmission providers' statutory rights, which is contrary to law."[674] The Commission did not foreclose transmission

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[672] Order No. 2023, 184 FERC ¶ 61,054 at PP 963, 987 n.1911.

[673] Indicated PJM TOs Rehearing Request at 26 ("transmission owners should be entitled to challenge the propriety or size of the penalty amount assigned to it either 'automatically' or by a transmission provider as an unjust, unreasonable, or unduly discriminatory rate based on grounds of its own choosing.).

[674] NYTOs Rehearing Request at 23 (citing *Atl. City I*, 295 F.3d at 10).

providers' abilities to exercise their statutory rights, but rather provided the appeals process as the avenue for transmission providers to seek relief under the just and reasonable tariff process established by Order No. 2023, applying the "good cause" standard, which provides more flexibility and is more favorable to transmission providers than requiring them to show that the penalty would be "unjust and unreasonable" under FPA section 206. Because Order No. 2023 provided a specific tariff-based mechanism for appeals, the filing of such appeals under FPA section 206 is unnecessary.[675]

369. We sustain the decision, in Order No. 2023, not to create generic exceptions for study delay penalties or to exempt transmission providers from such penalties in cases where they assert that *force majeure* applies, for the reasons articulated in Order No. 2023.[676] In further support, we find that creating "self-effectuating" exceptions to penalties where a delay is caused by factors outside of the control of the transmission provider is not a preferable approach to the appeals process, particularly given that there

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[675] Transmission providers have initiated complaints under FPA section 206 alleging that their own tariff provisions are unjust and unreasonable, but this procedure is generally used when there is no other mechanism by which a transmission provider could change or challenge such tariff provisions. For example, PJM has initiated FPA section 206 complaints regarding its own Operating Agreement because it does not have FPA section 205 filing authority to file market rule changes to the Operating Agreement without supermajority stakeholder approval. *See, e.g.*, PJM Intra-PJM Tariffs, § 8.4, OA § 8.4 (Manner of Acting) (1.0.0); *PJM Interconnection, L.L.C.*, 180 FERC ¶ 61,051, at PP 8-9 (2022).

[676] *See* Order No. 2023, 184 FERC ¶ 61,054 at PP 1003, 1019, 1024 (explaining that transmission providers could raise these issues in an appeal). For the same reasons, we deny NYTO's request for clarification on this point.

may be disputes as to whether and to what extent a delay was within a transmission provider's control. Creating an exemption for circumstances of *force majeure* is an example of this problem, as there may be disputes as to whether the declaration of *force majeure* was valid or the extent to which a delay is attributable to the alleged *force majeure*. The appeals process is a just and reasonable approach to addressing these issues.

370. MISO TOs' argument that strict liability under tort law is only imposed in circumstances involving very dangerous activities is not persuasive. As discussed above,[677] the adoption of a deadline and penalty structure in Order No. 2023 is supported by the record in this case and does not reflect a "strict liability" approach that is analogous to these tort law regimes. Nor did the Commission rely on tort law governing hazardous activities to support Order No. 2023.[678]

371. We disagree with arguments that Order No. 2023 created a strict liability structure. The portion of Order No. 2023 quoted by NYISO's request for rehearing in this respect[679] was addressing the ability to appeal—the mechanism through which transmission

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[677] *See supra* PP 358-359359.

[678] *Cf.* Order No. 2023, 184 FERC ¶ 61,054 at PP 1001, 1013, 1015 (discussing Commission precedent for the approach in Order No. 2023 including traffic ticket penalties and penalties under Order No. 890); *infra* section II.D.1.c.v (same); *infra* section II.D.1.c.iv (discussing Order No. 2023 as an application of the Commission's ratemaking authority).

[679] *See* NYISO Rehearing Request at 29-30.

providers' responsibility for delay in individual cases can be assessed.[680] We have already explained, in both Order No. 2023 and herein, why the presumptive imposition of penalties on transmission providers should they fail to meet their study deadlines, with a subsequent evaluation of whether relief is warranted in a particular case, reflects reasoned decision-making and is a just and reasonable approach.

372. We also disagree with arguments that Order No. 2023's implementation of a study delay penalty structure is unjust and unreasonable, or unduly discriminatory or preferential, because it limits the assessment of penalties for late studies to transmission providers rather than also extending them to other entities—including interconnection customers—that may contribute to delays of interconnection studies. We similarly disagree with claims that Order No. 2023's incentives are impermissibly one-sided. Interconnection customers and transmission providers are not similarly situated with respect to the conduct of interconnection studies: transmission providers control and are responsible for the conduct of those studies, while other entities, including interconnection customers, generally are not.[681] Moreover, transmission providers are

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[680] Order No. 2023, 184 FERC ¶ 61,054 at P 989. The Commission was particularly explaining that it would be inappropriate to adopt a structure providing for penalties "only where a factor can be conclusively demonstrated to be within a transmission provider's control, as this would impose significant administrative burden." *Id.*

[681] *See, e.g.*, *Ark. Elec. Energy Consumers v. FERC*, 290 F.3d 362, 367 (D.C. Cir. 2002) ("A rate is not 'unduly' preferential or 'unreasonably' discriminatory if the utility can justify the disparate effect."); *Cities of Bethany v. FERC*, 727 F.2d 1131, 1139 (D.C. Cir. 1984) (*Cities of Bethany*); *El Paso Nat. Gas Co.*, 104 FERC ¶ 61,045, at P 115

further differently situated from interconnection customers because interconnection customers already are subject to significant incentives to avoid delaying the study process that transmission providers do not face. These include interconnection customers' interest in achieving timely commercial operation of their facilities, that failure to meet their obligations in the interconnection process may result in their interconnection requests being deemed withdrawn,[682] and that they may be subject to withdrawal penalties.[683] The adoption of a penalty structure for transmission providers that fail to meet the study timeframes set by Order No. 2023 reflects, in part, that transmission providers lacked adequate incentives to ensure study timeliness and the role they can play in ensuring the timeliness of interconnection study processes.[684] It further reflects that the value of interconnection studies depends in part on their timely completion and, therefore, that it is reasonable that transmission providers may recover less for these

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(2003) ("Discrimination is undue when there is a difference in rates or services among similarly situated customers that is not justified by some legitimate factor.").

[682] Being deemed withdrawn from the interconnection queue carries significant consequences for an interconnection customer, and—while the interconnection customer may dispute that decision—loss of queue position occurs automatically after a failure to cure (if an opportunity to cure is allowed) and lasts "until such time that the outcome of Dispute Resolution would restore its Queue Position." *Pro forma* LGIP section 3.7. We are therefore not persuaded by Indicated PJM TOs' suggestion that this will not be a significant consideration discouraging interconnection customers from delaying interconnection studies. *See* Indicated PJM TOs Rehearing Request at 28.

[683] *See, e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at PP 37, 43, 50, 780-84, 1020; *pro forma* LGIP section 3.7.

[684] *See* Order No. 2023, 184 FERC ¶ 61,054 at PP 50, 968, 972.

studies where they are delayed without good cause.[685] Thus, we disagree that we must apply the study delay penalties set by Order No. 2023 to these other entities.

373. We are also not persuaded by arguments that under Order No. 2023's deadline and penalty structure, interconnection customers are incentivized to affirmatively delay the completion of interconnection studies. As explained in Order No. 2023, the economic harms to the interconnection customer of delayed study completion significantly outweigh any incentive to delay the interconnection process.[686] Moreover, the appeals process available to transmission providers undermines any incentive for strategic delay on the part of interconnection customers because it provides an opportunity for transmission providers to argue for relief from penalties, including because delays were caused by factors beyond their control, such as the actions of interconnection customers. And even if a transmission provider is subject to a penalty, those amounts will be distributed among all the interconnection customers included in the relevant study that did not withdraw, which further reduces the purported incentive for any individual interconnection customer to cause delays, as they will not receive the entirety of any penalty assessed to the transmission provider.

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[685] *See id.* P 972 ("The study delay penalty structure adopted in this final rule balances the harm to interconnection customers of interconnection study delays and the associated need to incentivize transmission providers to timely complete interconnection studies with the burdens on transmission providers of conducting interconnection studies and potentially facing penalties for delays, including those that may be caused or exacerbated by factors beyond their control.").

[686] *Id.* P 1020.

374. Many of the rehearing requests contend that the study deadline and penalty structure under Order No. 2023 will have certain negative consequences. As explained below, we continue to find this structure to be just and reasonable, notwithstanding these arguments. In many cases we disagree that these purported negative consequences will manifest and, to the extent there may be such consequences, we continue to find that Order No. 2023's deadline and penalty structure is just and reasonable.

375. The Commission in Order No. 2023 concluded that there is not an inherent trade-off between firm study deadlines with study delay penalties versus "interconnection study flexibility and accuracy, as well as system reliability."[687] As explained in Order No. 2023, we are not persuaded by arguments on rehearing that such deadlines and penalties will necessarily incentivize speed and meeting deadlines over accuracy, with deleterious results. These arguments present a false dichotomy between the accuracy of interconnection studies and their timely completion,[688] fail to give appropriate weight to the reliability and economic risks associated with failure to timely interconnect new

[687] *Id.* P 1007.

[688] *See id.* ("We reiterate that it is within transmission providers' ability to improve interconnection study processes and policies and take other measures, such as hiring additional staff, to efficiently process interconnection queues without sacrificing accuracy, flexibility, or reliability."); *id.* (also noting that transmission providers can recover increased costs of interconnection studies); *see also supra* section II.D.1.c.i (explaining that the deadlines selected for the completion of interconnection studies are just and reasonable).

generating facilities,[689] and fail to consider the safeguards adopted in the deadline and penalty structure that allow transmission providers avenues of relief from the strict application of study deadlines.[690]

376. We are also not persuaded that Order No. 2023's deadline and penalty structure will foster a combative atmosphere, potentially increasing delays. As noted above, the interconnection process is one that has generally been characterized by cooperation.[691] Interconnection customers and transmission providers—who are all generally professional and sophisticated parties—share a reciprocal interest in the smooth functioning of the interconnection process. While it is possible that, in some cases, the increased accountability on transmission providers for timely interconnection study completion may mean that transmission providers are less inclined to accede to interconnection customer actions that may delay the study process, we find that—given the need to ensure timely interconnection study completion to ensure just and reasonable

[689] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1007 ("[W]e further agree that the failure to bring new generating facilities online in a timely manner can also create reliability and economic risk.").

[690] *See id.* ("[T]he study delay penalty structure includes significant safeguards for the transmission provider, such as the transition period, the 10-business day grace period, the penalty cap, the ability to extend deadlines by mutual agreement, and the ability to appeal any study delay penalties to the Commission."); *id.* P 1005 ("If, for whatever reason, the transmission provider is not able to meet firm study deadlines, that is an issue the transmission provider is free to raise in appealing any penalties it incurs.").

[691] *See supra* P 335.

rates—this possibility is an acceptable consequence of Order No. 2023.[692] Indeed, it reflects that transmission providers can use the knowledge and control they have with respect to the study process to ensure that individual interconnection customers are not allowed to unduly delay the overall study process.[693] As to claims that the deadline and penalty structure may motivate transmission providers, including RTOs/ISOs and transmission owners, to focus on the need to protect against exposure to penalties and undermine constructive collaboration among them, the principal way for these entities to minimize that exposure will be to endeavor to complete interconnection studies in a timely fashion, which is the purpose of the deadline and penalty structure. In this respect, the interests of RTOs/ISOs and transmission owners will be aligned, and we expect that Order No. 2023 will not undermine the incentives for cooperation among RTOs/ISOs and transmission owners.

377. Several of the rehearing requests contend that adoption of interconnection study deadlines and penalties, with an appeals process, will divert resources that would otherwise be used for interconnection studies. We sustain the Commission's rejection of

[692] The various safeguards attendant to the deadline and penalty structure should also limit the likelihood that transmission providers feel constrained to take an unduly stringent response to reasonable interconnection customer requests.

[693] In this respect, the adoption of a deadline and penalty structure for transmission providers to ensure timely study completion may translate into increased accountability for interconnection customers not to delay the study process.

these arguments, for the reasons already stated in Order No. 2023.[694] We particularly note that it is not the case that the funds used to pay for penalties (or to appeal such penalties) necessarily must be diverted from those used to perform interconnection studies.[695] Indeed, although we do not prejudge the facts of any particular case, it would not appear to be generally rational or appropriate for a transmission provider to respond to the assessment of a penalty for a late interconnection study by diverting significant resources from future interconnection studies in a way that will increase the likelihood that it will incur additional penalties.

378. Similarly, while several rehearing requests contend that managing deadlines and penalties, as well as the appeals process, may create burdens on transmission providers, we conclude that—particularly given the need for replacement of the reasonable efforts standard with a standard that will better ensure the timeliness of interconnection study completion—the deadline and penalty structure is just and reasonable notwithstanding such burdens. Here, too, we do not believe it would be rational or appropriate for a transmission provider to divert significant resources from the timely completion of interconnection studies to the appeals process. As stated above, when considering appeals the Commission intends to exercise its discretion as to procedural matters on a

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[694] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1005; *see also id*. P 1007 (noting that the costs of timely completing interconnection studies are ultimately borne by interconnection customers)

[695] *See, id.* P 992 (noting that at-fault transmission provider's shareholders may pay the penalty).

case-by-case basis, which will help reduce the burdens attendant to pursuing an appeal.[696] Moreover, many alternative mechanisms directed toward ensuring study timeliness would consume transmission provider resources to explain why they are not responsible for study delays, and likewise invite arguments from other entities addressing such responsibility, but would have lesser utility in responding to the problem of interconnection queue backlogs.[697] In addition, the amounts of the penalties[698] are not so large that we expect that transmission providers will unduly divert large amounts of resources to an appeal of penalties, particularly those assessed for relatively short delays.[699] While the administrative appeals process may draw protests, *e.g.*, by interconnection customers, resulting in litigation, filing those protests and engaging in such litigation will also consume resources for the filing parties and any penalty funds

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[696] *See supra* P 366.

[697] *See infra* PP 429-430 (discussing why the Commission found that differences between deadline and penalty structure under Order No. 2023 and the structure under Order No. 890 were warranted).

[698] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 962 ("[D]elays of cluster studies beyond the tariff-specified deadline will incur a penalty of $1,000 per business day; delays of cluster restudies beyond the tariff-specified deadline will incur a penalty of $2,000 per business day; delays of affected system studies beyond the tariff-specified deadline will incur a penalty of $2,000 per business day; and delays of facilities studies beyond the tariff-specified deadline will incur a penalty of $2,500 per business day.").

[699] The 10-day grace period also helps to address concerns that, for relatively short delays leading to minor penalties, transmission providers may wish to forego the burdens of seeking such an appeal. *See* NYTOs Rehearing Request at 27. It is, of course, up to transmission providers to manage their resources and determine whether taking an appeal of a minor penalty is in their best interest.

assessed to the transmission provider will be allocated among the relevant interconnection customers. This decreases the incentive to file protests in cases where delays are small and penalty amounts are low or where there is not a genuine, credible dispute as to where responsibility for a delay of an interconnection study properly resides.[700] We conclude that the burdens that Order No. 2023 places on transmission providers do not render the rule unjust and unreasonable.

379. While Dominion argues that higher study deposits may be necessary to address increased personnel costs resulting from the penalty regime, Dominion fails to acknowledge that the Commission has already significantly increased the required study deposits for interconnection customers in Order No. 2023,[701] and that study costs exceeding study deposits can be recovered from interconnection customers.[702] We are therefore not persuaded by this argument.

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[700] We are also not persuaded by PacifiCorp's suggestion that the appeals process is not workable because "it is highly likely that appeals will be filed faster and more frequently than the Commission can process them," PacifiCorp Rehearing Request at 12, which is founded on speculation that transmission providers will frequently fail to meet their deadlines leading to such appeals, and that such appeals will be onerous to process.

[701] *See pro forma* LGIP section 3.1.1.1. To the extent that study deposits must be further increased, beyond these levels, the Commission can consider that going forward, including in response to compliance proposals or—if necessary—further reforms to the *pro forma* LGIP.

[702] Order No. 2023, 184 FERC ¶ 61,054 at P 1007; *see also, e.g., pro forma* LGIP sections 7.1, 8.1, 9.4, 13.3, app. 2 at section 6, app. 7 at section 7, app. 8 at sections 7-8, app. 9 at section 6, app. 10 at section 6.

380. We do not agree with Indicated PJM TOs' contention that adopting a structure of deadlines and penalties for regions that have already adopted a cluster study process sends a message that their stakeholder processes do not matter. That the Commission found, in generic proceedings, that a suite of reforms to its *pro forma* LGIP and *pro forma* LGIA approach to interconnection were necessary to ensure just and reasonable rates does not reflect any disparagement of an individual entity's or region's efforts at similar reforms, such as the adoption of cluster studies. The Commission has found that adoption of a cluster study approach is such a just and reasonable reform, but that additional reforms are also necessary. Adopting Indicated PJM TOs' contrary view in this case would—in effect—be to conclude that the Commission should have adopted a self-imposed limit on acting through a generic proceeding out of deference to stakeholder processes that have resulted in only a partial solution to the problem at hand, contrary to the Commission's FPA section 206 authority and obligation to ensure just and reasonable rates.[703]

381. We are further not convinced by NYTOs' claim that if Order No. 2023's deadlines and penalties are strictly enforced without exceptions (such as demonstration of compliance with Good Utility Practice or the presence of *force majeure*), it will hinder ongoing regional queue reform initiatives. This argument is conclusory and unexplained

[703] This argument also overlooks transmission providers' ability to propose alternative reforms, as informed by their stakeholder processes, under the "consistent with or superior to" or "independent entity variation" standards, as applicable. *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1764.

as to why strict application of deadlines and penalties without such exceptions would have this alleged effect.[704] Regardless, Order No. 2023 does not provide for an unduly inflexible approach by allowing for numerous flexibilities including the appeals process, as explained above.

382. We are not persuaded by PJM's claim that under Order No. 2023 transmission providers will incur penalties on a strict liability basis, reducing their deterrence and incentive effects. As already discussed, Order No. 2023 does not adopt a "strict liability" approach to penalties.[705] More fundamentally, PJM fails to explain why a penalty as a presumptive matter, based on objective conduct, that is then subject to an appeal, would reduce the incentive to avoid triggering the penalty.[706] Indeed, PJM's argument here appears circular: in support of its claim that the penalty structure in Order No. 2023 will reduce the deterrence and incentive effects of a penalty, PJM offers nothing more than a characterization of that structure and assertion that this structure will cause transmission providers to question the deterrence or incentive purpose of the penalty.

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[704] *Cf. id.* P 967 ("The reasonable efforts standard worsens current-day challenges, as it fails to ensure that transmission providers are keeping pace with the changing and complex dynamics of today's interconnection queues.").

[705] *See supra* PP 359-360. Indeed, PJM acknowledges that transmission providers have the ability to "demonstrate that the penalty imposed on it should not be assessed." PJM Rehearing Request at 31.

[706] The economically rational response to a potential penalty, even one that is presumptively applied subject to an appeal, is to take the steps necessary to avoid or reduce the penalty, to the extent that the cost of taking such steps is lower than the expected value of the reduction in the amount of the penalty.

383. NYISO also claims that the Commission increased penalty levels from the levels proposed by the NOPR without sufficient explanation. It asserts that the example the Commission provided in support of doing so—explaining that, under the NOPR approach, a full six months of study delay (roughly 126 business days) would result in an estimated penalty of only $63,000[707]—does not support this result or show that the penalties adopted in Order No. 2023 will be non-punitive.[708] We sustain the Commission's determination to increase the study delay penalties as specified in Order No. 2023.[709] This example reflects that, under the NOPR penalty amount, a transmission provider that takes roughly twice as long as allowed to perform a cluster study would incur a relatively modest penalty,[710] which we find would not provide an appropriate incentive to spur the investments or allocation of resources necessary to facilitate timely study completion, or strike an appropriate balance between transmission provider and interconnection customer interests.[711] One point of comparison supporting this

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[707] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 975.

[708] NYISO Rehearing Request at 37 (arguing that this does not demonstrate that the Commission has set non-punitive penalty levels, particularly as applied to RTOs/ISOs).

[709] *See* Order No. 2023, 184 FERC ¶ 61,054 at PP 973-78.

[710] *Cf., e.g., pro forma* LGIP section 3.1.1.1 (specify study deposit amounts for each interconnection request).

[711] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 975 ("We view such a penalty as insufficient considering that the purpose of the penalty is to incentivize timely study completion that may be achieved, for example, by hiring additional personnel or

conclusion is to consider that a single proposed 250 MW generating facility is required to tender $755,000 (i.e., a $5,000 application fee, a $250,000 study deposit, and a $500,000 commercial readiness deposit in cash or as an irrevocable a letter of credit) to enter the study process under the Commission's *pro forma* LGIP.[712] That facility must then progressively increase its investment in the process through increasing deposits, study costs, and potential withdrawal penalties, not to mention the dedication of resources to develop the project and shepherd it through the interconnection process.[713] Viewed in this context, we disagree that the revised penalty amounts are punitive on their own, and

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investing in new software."); *cf., e.g.*, *EPSA*, 577 U.S. at 295 (ratemaking involves both technical understanding and policy judgment); *Cities of Bethany*, 727 F.2d at 1138 (explaining that because "ratemaking is less of a science than it is an art" such that "substantial deference" to the Commission's expert judgment is warranted (citing *Alabama Elec. Co-op., Inc. v. FERC*, 684 F.2d 20, 27 (D.C. Cir. 1982)).

[712] *See pro forma* LGIP section 3.1.1.1 (requiring $5,000 application fee and a $250,000 study deposit for interconnection requests greater than or equal to 200 MW) and section 3.4.2(vi) (requiring a commercial readiness deposit of twice the study deposit).

[713] *See, e.g., pro forma* LGIP sections 7.5(1)(b), 8.1(3), 11.3 (requiring adjustments to commercial readiness deposits to equal an increasing percentage of interconnection customer's assigned network upgrade cost as the customer progresses through the interconnection process); section 13.3 (requiring the interconnection customer to pay for interconnection study costs); and section 3.7.1 (unless certain exemptions apply, requiring interconnection customer that withdraws from the interconnection process to pay a withdrawal penalty that increases as the customer progresses through the interconnection process).

they are particularly not punitive when considered in light of the safeguards[714] provided and avenues for RTO/ISO penalty cost recovery.

384. We disagree with Indicated PJM TOs' and Dominion's contentions that the penalty and deadline framework is unduly discriminatory, citing the uneven distribution of interconnection requests among transmission providers, such that some transmission providers may face a heightened risk of penalties as compared to other transmission providers. At the outset, given the structure of Order No. 2023—under which we have imposed deadlines that should be reasonably achievable, replaced the serial study process with cluster studies, and afforded several safeguards, including the appeals process[715]—it is not necessarily the case that some transmission providers will be more likely to have to pay penalties than others based on the uneven distribution of interconnection requests. Moreover, transmission providers may propose variations from the requirements of Order No. 2023, under the applicable standard, which provides a further vehicle to ensure that

[714] Order No. 2023, 184 FERC ¶ 61,054 at P 976 ("Based on the record before us, we believe the $1,000/$2,000/$2,500 per business day penalty structure, combined with the transition, grace period, cap on penalties, and ability to appeal that we adopt below, strikes an appropriate balance because it creates an incentive for transmission providers to meet study deadlines while not being overly punitive.").

[715] Dominion and Indicated PJM TOs' arguments also presuppose that, in any appeal, the Commission would find there is not good cause for relief from penalties, on the facts of the relevant case. That the Commission can consider the individualized factors in a particular case to determine whether to grant relief from penalties is another avenue to ensure that undue discrimination does not occur.

the late study deadline and penalty structure does not unduly burden certain transmission providers as compared to others.

385. But even accepting, *arguendo*, the premise of this argument that such disparate outcomes might occur, we disagree that this would necessarily render Order No. 2023's penalty structure unduly discriminatory. The increased possibility for penalties to be assessed in regions facing higher volumes of interconnection requests necessarily results from the increased likelihood of delayed results in those regions. That, however, correspondingly reflects in an increased need in these regions to ensure timely processing of those requests.[716] Thus, any increased possibility of penalties in those regions is a just and reasonable and not unduly discriminatory result.[717]

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[716] Similarly, where transmission providers are facing comparatively high volumes of interconnection requests in a given cluster study, there are more interconnection customers who will face uncertainty and increased costs due to any delays.

[717] *See, e.g.*, *AEMA*, 860 F.3d at 670-71 ("The law provides no basis to claim the Commission cannot approve uniform performance requirements simply because those requirements will be easier to satisfy for some generators than for others. . . . Using an annual performance standard is a reflection of the Commission's policy judgment as to the level of capacity performance the market requires, not an undue privileging of one resource's costs over another's."); *BP Energy Co. v. FERC*, 828 F.3d 959, 967 (D.C. Cir. 2016) ("No undue discrimination exists where there is 'a rational basis for treating [two entities] differently' and such differential treatment is 'based on relevant, significant facts which are explained." (quoting *Complex Consol. Edison Co. of N.Y., Inc. v. FERC*, 165 F.3d 992, 1012-13 (D.C. Cir. 1999))); *Town of Norwood, Mass. v. FERC*, 202 F.3d 393, 402 (1st Cir. 2000) (explaining that "differential treatment does not necessarily amount to *undue* preference where the difference in treatment can be explained by some factor deemed acceptable by the regulators (and the courts)" (emphasis in original) (citing *Cities of Newark v. FERC*, 763 F.2d 533, 546 (3d Cir. 1985))).

386. We reject arguments from Avangrid, MISO TOs, and NYTOs that incurring a penalty for failure to meet an interconnection study deadline is confiscatory, compelling transmission providers to provide service while not allowing them to recover their costs,[718] because these arguments were not raised in the comments received in response to the NOPR but have instead been raised for the first time on rehearing. We typically reject arguments raised for the first time on rehearing, unless those arguments could not have been previously presented, e.g., claims based on information that only recently became available or concerns prompted by a change in material circumstances.[719]

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[718] Although Avangrid and NYTOs assert that study delay penalties are "regulatory takings," their arguments focus on the purportedly confiscatory nature of the study delay penalties and they do not otherwise argue that the penalties are regulatory takings under the relevant legal standard. *See, e.g.*, *N. Y. Indep. Sys. Operator, Inc.*, 151 FERC ¶ 61,075, 61,534, at PP 64-67 (2015) (discussing the three-factor test to determine whether an action constitutes a regulatory taking under *Penn Cent. Transport. Co. v. City of New York*, which requires consideration of "[t]he economic impact of the regulation on the claimant and, particularly, the extent to which the regulation has interfered with distinct investment-backed expectations;" and "the character of the governmental action." 438 U.S. 104, 123 (1978)).

[719] *See Ala. Power Co*., 179 FERC ¶ 61,128, at P 15 (2022); *KEI (Me.) Power Mgmt. (III) LLC*, 173 FERC ¶ 61,069, at P 38 n.77 (2020); *Tex. E. Transmission, LP*, 141 FERC ¶ 61,043, at P 19 (2012) ("We do so because (1) our regulations preclude other parties from responding to a request for rehearing and (2) such behavior is disruptive to the administrative process because it has the effect of moving the target for parties seeking a final administrative decision." (quotation marks omitted)); *Calpine Oneta Power v. Am. Elec. Power Serv. Corp.*, 114 FERC ¶ 61,030, at P 7 (2006); *Iroquois Gas Transmission Sys., L.P.*, 86 FERC ¶ 61,261, at 61,949 (1999)); *Ocean State Power II*, 69 FERC ¶ 61,146, at 61,548 (1994); *NO Gas Pipeline*, 756 F.3d at 770 ("We finally note that Jersey City's alleged constitutional claim of actual bias is also barred as untimely. Jersey City has shown us nothing of record to establish that it raised this issue before FERC's issuance of the initial order."); *see also* 18 CFR 385.713(c)(3) (providing that any request for rehearing must "[s]et forth the matters relied upon by the party requesting

Commenters had the opportunity to argue that the study deadline and penalty structure is confiscatory in response to the NOPR but did not do so. We find that these arguments are, therefore, not properly before us.[720]

387. Even had these arguments been properly raised, these arguments would also be premature because they depend on speculative assertions that the result of applying penalties to transmission providers will be confiscatory.[721] For a transmission provider to establish this premise will necessarily depend on the facts of each individual case. Transmission providers will have the opportunity to argue on appeal that there is good cause to grant relief from the penalty, for example, because delays in completing

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rehearing, if rehearing is sought based on matters not available for consideration by the Commission at the time of the final decision or final order.").

[720] *See U.S. v. L. A. Tucker Truck Lines, Inc.*, 344 U.S. 33, 37 (1952) ("Simple fairness to those who are engaged in the tasks of administration, and to litigants, requires as a general rule that courts should not topple over administrative decisions unless the administrative body not only has erred but has erred against objection made at the time appropriate under its practice."); *cf. Reytblatt v. U.S. Nuclear Regul. Comm'n*, 105 F.3d 715, 723 (D.C. Cir. 1997) (agencies are not required to respond to untimely comments).

[721] *See* Avangrid Rehearing Request at 16 (similarly arguing that penalties that "potentially denies recovery of reasonable costs incurred for interconnection studies performed according to Good Utility Practice"); MISO TOs Rehearing Request at 33-34 (arguing that "[t]he FPA does not permit the Commission to compel utilities to provide service to others for free" and that applying a penalty in a "strict liability" fashion to transmission providers "when the fault is not theirs" is particularly problematic); NYTOs Rehearing Request at 25-26 (arguing that penalties will be "confiscatory" because transmission providers may not be provided "cost recovery plus a reasonable return on prudent investment" such that the imposition of penalties will "conscript public utility transmission providers into performing services without just and reasonable compensation").

interconnection studies were due to factors beyond their control and that, as a result, they should be entitled to recovery of their costs of performing such studies; and that failure to allow such recovery would be confiscatory.

388. In the alternative, even if we were to consider these arguments as properly raised as a procedural matter and ripe for consideration at this time, we would reject them. While transmission providers have historically recovered the full costs of interconnection studies from interconnection customers, the structure adopted in Order No. 2023 reflects a different approach under which the amount transmission providers can charge for such studies will be effectively reduced if transmission providers fail to meet the relevant deadlines.[722] As the Supreme Court explained in *FPC v. Hope Natural Gas Co.*, ratemaking involves "a balancing of the investor and the consumer interests,"[723] under which regulated utilities are generally entitled to a reasonable opportunity to recover their prudently incurred costs, but are not guaranteed such cost recovery.[724]

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[722] For the reasons provided herein and in Order No. 2023, we find that this approach, under which transmission providers will be held to appropriate performance standards and incentivized to complete studies in a timely fashion, is permitted under FPA section 206, *see supra* section II.D.1.c; *infra* section II.D.1.c.iv, is just and reasonable, and reflects a preferable policy approach in light of the gravity of the problem of interconnection queue delays and backlogs.

[723] *Hope*320 U.S. at 603; *see also Jersey Cent.*, 810 F.2d at 1177–78. *Hope* interpreted the Natural Gas Act, whereas the instant proceedings concern the FPA. Nevertheless, "courts rely interchangeably on cases construing each of these Acts when interpreting the other," including the standards articulated by the Court in *Hope*. *See Jersey Cent.*, 810 F.2d at 1175.

[724] *See Hope*, 320 U.S. at 603 (ratemaking does not guarantee that the regulated

389. Order No. 2023's deadline and penalty structure reflects this balancing of interests, providing a reasonable opportunity for cost recovery dependent on the transmission provider's performance in providing the service at issue. It allows the opportunity for full cost recovery for the conduct of interconnection studies, should transmission providers meet the relevant standards of performance (deadlines) for the timely conduct of those studies. Should transmission providers fail to meet those standards, the penalties reduce the compensation available, consistent with interconnection customers' interests in the timely completion of those studies and the extent to which delays in the completion of those studies contribute to interconnection queue backlogs, resulting in unjust and unreasonable rates to consumers. Even then, however, transmission providers may still obtain relief from penalties through the appeals process, including by arguing that factors outside of their control rather than their own conduct caused the delay, further confirming their reasonable opportunity to recover their costs.[725] Avangrid, MISO TOs, and NYTOs do not demonstrate that the deadline and penalty structure under Order No. 2023 is confiscatory.

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utility will produce net revenues).

[725] The arguments that Order No. 2023 is confiscatory or works a regulatory taking also depend on claims that the penalty structure set forth in Order No. 2023 is "strict liability" or that the deadlines selected for the completion of studies are "unjustified and arbitrary." *See* Avangrid Rehearing Request at 16; MISO TOs Rehearing Request at 33*e*. As explained above, these arguments are not meritorious. *See supra* section II.D.1.c.i; PP 359-360.

iii. RTO/ISO Issues

(a) Requests for Rehearing

390. Several parties on rehearing raise challenges to the Commission's treatment of RTOs/ISOs under the deadline and penalty structure. NYISO asserts that imposing penalties on RTOs/ISOs is inappropriate because such penalties will be disproportionate or ineffective, and may pose an existential risk to RTOs/ISOs given their non-profit nature, lack of shareholders, and the risk that they will be denied recovery of their costs.[726] NYISO argues that Commission precedent prevents passing penalty costs to customers, but RTOs/ISOs lack shareholders to absorb the costs such that penalties pose an existential risk—and that the Commission arbitrarily and capriciously dismissed these concerns.[727] NYISO claims that the ability to make FPA section 205 filings to recover costs associated with penalties (whether through individual filings or a default structure) does not eliminate the risk that penalties pose, because such proposals will likely be contested and may be rejected.[728] NYISO also observes that Order No. 2023 "asserts for

[726] NYISO Rehearing Request at 17-18 (asserting that this penalty structure as applied to RTOs/ISOs is "unjust, unreasonable, unduly discriminatory, and violative of due process, and would impede the Commission's policy goals").

[727] *Id.* at 21-23 (arguing that NYISO and similarly-situated RTOs/ISOs cannot pay penalties without recovering costs from customers in some form and that being denied permission to recover such costs could threaten their financial viability).

[728] *Id.* at 23-24 (noting that in *N.Y. Indep. Sys. Operator, Inc.*, 127 FERC ¶ 61,196, at P 36 (2009), the Commission indicated that Commission review serves as a check on NYISO's ability to pass through a penalty and that denial of relief or other appropriate action is a possibility).

the first time that RTOs/ISOs actually are authorized to pay penalty costs, seemingly without first making any kind of section 205 filing, by using funds that are not related to transmission services," but claims that the Commission ignores that any funds collected by RTOs/ISOs must come from market participants.[729] NYISO asserts that it is not clear why the Commission would allow recovery of penalty costs automatically from non-transmission charges but require FPA section 205 filings to recover costs from transmission customers.[730] NYISO also claims it is unduly discriminatory to subject them to the same penalty regime as traditional transmission providers.[731]

391. AEP argues that the Commission's approach to penalties as applied to RTOs/ISOs—providing that the transmission owner responsible for conducting a late study in an RTO/ISO will directly incur the penalty and allowing recovery of penalty costs incurred by RTOs/ISOs through FPA section 205 filings—underestimates the complexity of assigning fault for study delays.[732] AEP argues that assigning fault for study delays is not a straightforward proposition in RTOs/ISOs, noting the collaborative

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[729] *Id.* at 25.

[730] *Id.* at 25-26 (noting that NYISO anticipates that there will be objections to allowing automatic recovery via non-transmission related charges, such that recovery through this avenue is also not guaranteed).

[731] *Id.* at 38-39 (arguing that "the same penalties are harsher when applied to the RTO/ISO" because of potential uncertainties around the ability of RTOs/ISOs to recover penalty costs and the risks penalties pose to RTOs/ISOs).

[732] AEP Rehearing Request at 17-19.

nature of the study process and citing an example from a recent SPP informational report that identified multiple drivers of delays, at least two of which were outside of SPP's control. AEP argues that the Commission failed to justify the imposition of administrative and litigative burdens on RTOs and ISOs related to assigning fault for delays to the completion of interconnection studies.[733] AEP also contends that the Commission appears to have restricted the appeal process to the party that conducts the interconnection study, such that other contributors to fault—to whom the RTO/ISO assigns some portion of the penalty—may be unable to appeal.[734] In addition, AEP argues that, at a minimum, the Commission should reconsider who has standing to appeal penalties under the Order No. 2023 procedures and broaden the standard to include parties taking part in the study process that are not tasked with conducting a study.

392. As to the direct assignment of study delay penalties, Indicated PJM TOs contend that penalties cannot be automatically assigned in this fashion and the Commission is incorrect to suggest that such assignment could occur with little to no factfinding.[735] Indicated PJM TOs assert that, to the extent that the Commission intends to assign the penalty only to the singular entity that performed the study, it is not clear how the penalty

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[733] *Id.* at 18-19 (arguing that imposing such burdens is particularly unwarranted because the record does not support that penalties will reduce delays and if penalties are not assigned to the right entity, penalties cannot constitute an effective incentive).

[734] *Id.* at 19-20 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 963).

[735] Indicated PJM TOs Rehearing Request at 9-10.

would be assigned if the study is primarily executed by the RTO/ISO but also depends on a collaborative effort between the RTO/ISO and transmission owners. On the other hand, they argue that, to the extent the Commission intends that penalties be directly assigned to the entity with the "most control" over the study (or allocated proportionately based on the level of control or responsibility for the delay), significant factfinding will be required, given the collaborative nature of the process. Indicated PJM TOs also note that interconnection customers may be responsible for delays, reinforcing the need for a factual analysis to determine which entity had "more control" over a study and caused or contributed to the study delay.[736] In addition, Indicated PJM TOs assert that Order No. 2023 empowers RTOs/ISOs to determine a transmission owner's responsibility for study delay penalties, such that RTOs/ISOs will have incentives to blame transmission owners for delays, rather than assigning fault to themselves or mitigating delays, and forcing transmission owners to appeal penalties.[737] Furthermore, they argue that the Commission cannot delegate to third parties (i.e., RTOs/ISOs) the obligation to ensure the justness and reasonableness of rates.[738]

393. MISO TOs also contend that, in providing for the direct assignment of penalties where the transmission-owning members of an RTO/ISO perform interconnection

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[736] *Id.* at 11, 21.

[737] *Id.* at 25.

[738] *Id.* at 22.

studies, the Commission failed to consider the complexity of the study process and how fault for delays can rest with more than one entity.[739] They argue that, in the RTO context, both the RTO and transmission owner perform critical tasks for the completion of studies and factors outside of their control may cause delays.

394. NYISO claims that the automatic assignment of penalties to transmission-owning members of RTOs/ISOs for studies that they conduct is not a reasoned solution to how penalties should apply to RTOs/ISOs, likewise citing the complexities of how the study process works in practice and collaborative nature of that process.[740] NYISO argues that allocating responsibility for delays will be highly subjective and contentious, leading to adversarial postures and undermining necessary cooperation. NYISO further argues that if "transmission owners bear 100% of the penalty for any study that they have any involvement with then there will foreseeably be transmission owner challenges to every penalty assignment" and that assigning penalties to transmission owners "only to the extent that they contributed to a missed deadline" will require a determination of relative responsibility.[741]

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[739] MISO TOs Rehearing Request at 30-31.

[740] NYISO Rehearing Request at 35-37 ("In the NYISO, transmission owners perform some part of all interconnection studies, and none are performed entirely by transmission owners.").

[741] *Id.* at 36.

395. Dominion also questions the automatic allocation of the penalty for missing deadlines to the transmission owner versus the RTO/ISO.[742] Pointing to the collaborative nature of the study process in PJM, Dominion challenges the Commission's blanket assumption that the interconnection transmission owner conducting the study has the most control over the study.

396. A number of the rehearing requests assert that the deadline and penalty structure does not impose proper or effective incentives on RTOs/ISOs. Avangrid asserts that the Commission failed to establish how this structure would incentivize RTOs/ISOs to meet fixed deadlines, but rather "asks the non-profit transmission provider to propose how it would penalize itself."[743] NYSPSC argues that the Commission failed to explain how, given the mechanisms it discussed for RTOs/ISOs to recover the costs of penalties, RTOs/ISOs will be subject to an incentive to meet the study deadlines set in Order No. 2023, asserting that if RTOs/ISOs can pass-through penalty costs to market participants they will be indifferent to those penalties.[744] NYTOs argue that allowing RTOs/ISOs to avoid penalty costs "contradicts the intended incentive, making the penalty ineffective

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[742] Dominion Rehearing Request at 25.

[743] Avangrid Rehearing Request at 6 (noting that the Commission indicated that RTOs/ISOs could submit FPA section 205 filings).

[744] NYSPSC Rehearing Request at 6-8 (arguing the Commission recognized, for non-RTO/ISO transmission providers and transmission-owning members of RTOs/ISOs, the need to have "skin in the game" by making shareholders accountable and urging the Commission to consider other mechanisms to incentivize RTOs/ISOs).

and therefore arbitrary and capricious."[745] Avangrid also notes that allowing RTOs/ISOs to collect penalties from market participants "provides no financial motivation to the ISO to change behavior to meet deadlines, as the ISO would merely be passing along the penalty costs to others."[746]

397. Avangrid, NYISO, NYSPC, and NYTOs assert that RTOs/ISOs may attempt to recover the cost of penalties in a manner that is not consistent with principles of cost causation or is otherwise unjust and unreasonable. Avangrid argues that allowing RTOs/ISOs to collect penalties from market participants violates cost causation principles and expresses concerns that RTOs/ISOs may attempt to allocate 100% of the penalty to a transmission owner that contributes to a delay in only a minor fashion, particularly if the RTO/ISO has no other way to recover the penalty costs. NYISO argues that RTOs/ISOs must recover costs associated with a penalty regime from their customers, and that penalties would simply punish customers that have nothing to do with missed deadlines.[747] NYSPSC contends that it is unjust and unreasonable to allow RTOs/ISOs to seek to recover the costs associated with penalties from administrative fees charged to market participants, as these are beyond the costs necessary to provide electric service to

[745] NYTOs Rehearing Request at 28 (citing *Garcia v. U.S. Bd. of Parole*, 409 F. Supp. 1230, 1239 (N.D. Ill. 1976)).

[746] Avangrid Rehearing Request at 6-7.

[747] NYISO Rehearing Request at 18.

customers and should not be borne by them.[748] NYTOs claim that "passing penalties to transmission owner members of RTOs/ISOs when those providers are not responsible for a delay violates cost causation and is not just and reasonable."[749]

398. NYISO argues that that it was unlawful for the Commission in Order No. 2023 to not further address the question of how RTOs/ISOs will recover the costs of study delay penalties that are not automatically imposed on a transmission-owning member, asserting that this question was raised in comments, acknowledged by the Commission, and is central to Order No. 2023's penalty regime.[750] Similarly, Dominion asserts that the Commission has not articulated a sensible approach to RTO/ISO penalty costs that is supported by substantial evidence in the first instance, but is instead inappropriately deferring the issue to future RTO/ISO filings to propose a penalty allocation structure.[751]

399. MISO argues that Order No. 2023 should be revised to provide that RTOs are not required to pay any penalties until there is a Commission accepted mechanism to collect such penalties—and that the Commission failed to respond to comments raising this

[748] NYSPC Rehearing Request at 8-9.

[749] NYTOs Rehearing Request at 28.

[750] NYISO Rehearing Request at 19-20 ("The Commission should not defer the question to future section 205 or penalty appeal proceedings. It must resolve the problem now.").

[751] Dominion Rehearing Request at 25-26.

concern in a reasoned fashion.[752] MISO notes that the Commission recognizes that RTOs have no ability to pay study delay penalties without collecting them from another party and asserts that, until there is a mechanism in place to collect the funds to pay study delay penalties in RTOS, the RTOs may lack the authority and funds to collect and pay the penalties. However, MISO also notes that section 3.9 of the *pro forma* LGIP provides for distribution of penalties no later than 45 calendar days after the late study has been completed or 45 calendar days after the completion of any appeal and rehearing of the penalty.

(b) Determination

400. As an initial matter, we disagree with arguments that applying the penalty regime to RTOs/ISOs is inappropriate or unduly discriminatory because RTOs/ISOs do not have shareholders or guaranteed means of absorbing penalty costs whereas non-RTO/ISO transmission providers do. We believe that it would be inappropriate to categorically exempt RTOs/ISOs from the study delay penalties adopted in Order No. 2023.[753] RTOs/ISOs manage interconnection queues and process interconnection studies like non-RTO transmission providers. The available evidence indicates that study delays are just as significant a problem in RTOs/ISOs as non-RTO/ISO regions.[754] RTOs/ISOs, just like

[752] MISO Rehearing Request at 8-11.

[753] *See also* Order No. 890, 118 FERC ¶ 61,119 at P 1353.

[754] *See* Order No. 2023, 184 FERC ¶ 61,054 at app. B.

non-RTOs, are facing increases in interconnection queue size, study duration, and length of time interconnection customers are spending in the queue.[755] As noted above, Order No. 2023 explained the gravity of the national problem of interconnection queue backlogs,[756] and we continue to believe that this is a dire problem that requires nationally implemented solutions.

401. Moreover, while we agree that there are differences between RTOs/ISOs and non-RTO transmission providers, we conclude that the penalty regime adopted in Order No. 2023 sufficiently accounts for the differences. First, in RTOs/ISOs, where an interconnection study is performed by a transmission-owning member of the RTO/ISO (as is often the case for facilities studies), under Order No. 2023 the penalty for missing a study deadline is incurred by that transmission-owning member, not the RTO/ISO.[757] Second, as to penalties that are incurred directly by the RTO/ISO, the RTO/ISO is permitted to seek cost recovery of penalty costs from their transmission-owning members or other market participants, whereas non-RTO/ISO transmission providers are not. Additionally, RTOs/ISOs, as well as non-RTOs, can appeal the imposition of penalties in specific instances. In light of these avenues for an RTO/ISO to avoid or reduce the prospect that it is responsible for payment of a penalty, we find that any residual

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[755] Queued Up 2023 at 9, 27, 32.

[756] Order No. 2023, 184 FERC ¶ 61,054 at PP 37-58.

[757] *Id.* P 995.

uncertainty as to an RTO/ISO's ability to recover penalty costs is outweighed by the critical need for all transmission providers, including RTOs/ISOs, to process interconnection studies in a timely manner. Furthermore, particularly given that the daily amount of the penalties is not punitive and that the penalties will be capped, we do not view the possibility that RTOs/ISOs may face some uncertainty in recovering penalty costs as an existential threat.

402. We are not persuaded by the following arguments to eliminate or modify the penalty regime: (1) RTOs/ISOs will not be incentivized to meet study deadlines; (2) the complexity of studies in RTOs/ISOs may lead to inappropriate assignment of cost responsibility; or (3) where RTOs/ISOs have dispute resolution processes, these procedures may delay assignment of fault. We continue to find that allowing RTOs/ISOs to recover penalty costs is warranted because RTOs/ISOs are differently situated than non-RTO transmission providers in terms of their ability to bear penalty costs, as RTOs/ISOs are non-profit entities and do not have shareholders. Therefore, it is appropriate for RTOs/ISOs to be permitted to seek to recover the cost of penalties they incur. We disagree that this structure will not incentivize RTOs/ISOs to mitigate study delays. Comments on the NOPR explained that RTOs/ISOs have good reason to try to avoid collecting penalty costs from their transmission-owning members, as that could create tension between RTOs/ISOs and their transmission-owning members.[758]

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[758] *See id.* P 921; OPSI Initial Comments at 9.

RTO/ISOs have an interest in limiting unnecessary charges to their member transmission owners or other market participants because the case for participating in RTO/ISOs, which remains voluntary and subject to state law, is founded on the increased efficiencies and cost-savings of RTO/ISO membership. If RTO/ISOs ignore opportunities within their control to eliminate or reduce the risk of incurring penalties, they erode these benefits.

403. As a result, the record indicates that RTOs/ISOs will be incentivized to avoid incurring penalties in the first instance. And to the extent that an RTO/ISO does incur a penalty cost, it will be incentivized to appeal that penalty, where appropriate, to avoid the need to collect that penalty cost. For these reasons, we find that the incentive structure created by Order No. 2023 will function as the Commission contemplated, helping to ensure just and reasonable rates.

404. In response to the argument that assigning penalties directly to the transmission owner that conducted the study is complicated because of the collaboration between the RTO and its transmission-owning members, we note that penalties will only be directly assigned to the applicable transmission owner within an RTO/ISO where there is an identifiable transmission-owning member who is formally responsible for conducting the applicable study. In other words, even where there is collaboration between entities, it is only if the transmission-owning member is the formally designated "lead" of the process that the transmission-owning member will directly incur the study delay penalty. To contrast, where there is no identifiable transmission-owning member that is formally

responsible for leading the interconnection study, the penalty will be incurred by the RTO/ISO itself.

405. We decline to implement MISO's suggestion that Order No. 2023 be revised to provide that RTOs/ISOs should not be required to pay any penalties until there is a Commission-accepted mechanism to recover such penalties. Order No. 2023 provides that RTOs/ISOs may—but are not required to—submit section 205 filings to propose cost recovery mechanisms to recover the costs of penalties they incur.[759] Revising the penalty structure as MISO suggests would leave open the possibility that RTOs/ISOs could avoid the penalty regime altogether by simply not proposing any cost recovery mechanism. Additionally, Order No. 2023 notes that RTOs/ISOs have multiple options for collecting necessary funds, and that one of these options is to submit an FPA section 205 filing after-the-fact to assign the cost of a specific study delay penalty. MISO's suggested revision is inconsistent with that potential avenue for cost recovery.

406. We find speculative arguments that RTOs/ISOs may attempt to recover penalties in a manner inconsistent with cost causation. RTOs/ISOs may propose under FPA section 205 either a default structure for recovering penalty costs or file section 205 proceedings to recover the costs of individual penalty costs. We will not prejudge those filings. Any arguments that those hypothetical proposals might violate cost causation

[759] Order No. 2023, 184 FERC ¶ 61,054 at P 994.

principles are best addressed in the context of the specific proposal and should be raised in those FPA section 205 proceedings.

407. We disagree with arguments that it is unlawful for the Commission to defer resolution of how RTOs/ISOs can recover penalties to future section 205 filings. In Order No. 2023, the Commission responded to comments on the penalty regime as it relates to RTOs/ISOs by identifying potential avenues for RTOs/ISOs to recover penalties and modifying the NOPR proposal where appropriate.[760] We do not believe that it is unlawful to allow section 205 filings to implement specific details of this regime. We further disagree that the particulars of how RTOs/ISOs recover penalty costs are integral to this rulemaking, which is focused on the overarching penalty structure that will apply nationwide. The specifics of RTO/ISO cost recovery will be highly fact dependent based on regional tariff variations. We continue to believe that it is appropriate to address cost recovery issues in individual proceedings that can take into account the variations in tariffs in each RTO/ISO region.

iv. Statutory Authority to Implement a Study Delay Penalty Structure under FPA Section 206

(a) Requests for Rehearing

408. Certain of the rehearing requests challenge the Commission's authority to adopt the deadline and penalty structure set forth in Order No. 2023 and/or contend that it is contrary to or not supported by Commission precedent. NYTOs and PacifiCorp claim

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[760] *Id.* PP 994-1001.

that the penalty structure is *ultra vires* because the Commission's civil penalty authority resides in FPA sections 316[761] and 316A,[762] and that the Commission is impermissibly reading such authority into section 206, which contains no civil penalty authority.[763] PacifiCorp argues that the Commission is attempting to "get around due process and other limits on its civil penalty authority by claiming it is only engaged in a rate-setting exercise" but "[a] civil penalty is a civil penalty."[764] NYTOs also assert that, under the Commission's policy statements on enforcement and compliance, penalties are meted out for wrongdoing or misconduct.[765] Thus, NYTOs claim, the Commission cannot adopt a structure in which transmission providers will incur penalties where the willful and knowing *mens rea* requirement is absent, or where the transmission provider is not at fault for a study delay.

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[761] 16 U.S.C. § 825o.

[762] 16 U.S.C. § 825o-1.

[763] NYTOs Rehearing Request at 22-23; PacifiCorp Rehearing Request at 10-11 (asserting that the Commission cites no precedent for civil penalties under section 206; also claiming that the Commission failed to address whether a study timely violation was itself a tariff violation).

[764] PacifiCorp Rehearing Request at 11.

[765] NYTOs Rehearing Request at 22 (citing *Enf't of Statutes, Ords., Rules, & Reguls.*, 113 FERC ¶ 61,068, at PP 14, 26 (2005); *Kokesh*, 581 U.S. at 461 (government-assessed penalties are "for the purpose of punishment, and to deter others from offending in like manner.")).

409. PJM asserts that the study delay penalty structure violates FPA section 315[766] because that section governs forfeitures for willful failures to comply with a Commission order, rule, or regulation or timely file a required report, and requires that such forfeitures be remitted to the United States Treasury.[767] PJM concedes that RTO tariffs, including its own, and other tariffs contain various penalty provisions; however, PJM attempts to differentiate these provisions by asserting that here, the Commission is imposing a mandate on transmission providers to include such a provision in their tariffs involuntarily, calling it a penalty, and using the compliance process to bypass the penalty provisions that Congress established in section 315 of the FPA.

410. AEP asserts that the penalty structure set forth in Order No. 2023 is unlawful because it constitutes monetary damages—defraying the study costs of the interconnection customers affected by a delay—and the Commission lacks authority to grant such damages.[768] AEP also contends that the Commission's decision to adopt a penalty structure for late studies is contrary to precedent, including Order No. 2003 and Order No. 845, in which the Commission rejected proposed requirements to impose

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[766] 16 U.S.C. § 825n.

[767] PJM Rehearing Request at 29-30.

[768] AEP Rehearing Request at 7-8 (citing *Bachofer v. Calpine Corp.*, 134 FERC ¶ 61,100, at P 9 (2011); *New England Power Pool*, 98 FERC ¶ 61,299, at 62,290 n.6 (2002); *TranSource, LLC v. PJM Interconnection, L.L.C.*, 168 FERC ¶ 61,119 at n.896 (2019)).

liquidated damages or automatic penalties if a transmission provider failed to meet deadlines.[769]

(b) Determination

411. We are not convinced by PacifiCorp's, NYTOs', or PJM's arguments that the Commission lacked authority to implement Order No. 2023's performance standard and incentive structure by relying on deadlines and penalties because, they argue, the Commission's civil penalty authority resides exclusively in certain provisions of the FPA. To begin with, these arguments were not raised prior to rehearing, as required by the Commission's Rule of Practice and Procedure 713(c)(3).[770] Here, because the NOPR proposed the elimination of the reasonable efforts standard and its replacement with a materially similar penalty structure to that adopted in Order No. 2023,[771] nothing precluded commenters from raising these arguments prior to the issuance of Order No. 2023—yet they did not do so. Thus, here too, these arguments are not properly before us.

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[769] *Id.* at 8-9 (asserting that the Commission failed to explain this change) (citing Order No. 2003, 104 FERC ¶ 61,103 at PP 883, 898; Order No. 2003-A, 106 FERC ¶ 61,220 at P 249; Order No. 845, 163 FERC ¶ 61,043 at P 309; *N.Y. Indep. Sys. Operator, Inc.*, 108 FERC ¶ 61,159, at PP 77-78 (2004)).

[770] *See supra* P 386 & nn. 719719-720720; 18 CFR 385.713(c)(3) (providing that any request for rehearing must "[s]et forth the matters relied upon by the party requesting rehearing, if rehearing is sought based on matters not available for consideration by the Commission at the time of the final decision or final order").

[771] *See* NOPR, 179 FERC ¶ 61,194 at PP 161-73.

412. Regardless, even considering these arguments on their substance, we find that they are not meritorious. As discussed above, the deadline and penalty structure adopted in Order No. 2023 reflects an exercise of the Commission's authority under FPA section 206, consistent with its longstanding regulation of the interconnection process.[772] PJM, NYTOs, and PacifiCorp fail to acknowledge this authority or precedent. Instead, they view FPA sections 315, 316, and 316A's grant of authority to assess a particular kind of monetary sanction—a civil penalty pursuant to statutorily-granted enforcement authority—as necessarily reflecting an across-the-board restriction of the Commission's other authority, including its FPA section 206 ratemaking authority. For instance, NYTOs cite the Supreme Court's decision in *Kokesh v. SEC* as standing for the proposition that "government-assessed penalties are 'for the purpose of punishment, and to deter others from offending in like manner,'"[773] while PacifiCorp asserts that "a civil penalty is a civil penalty."[774] These arguments fail to recognize that not all monetary sanctions, even when labeled as penalties, are civil penalties and that monetary sanctions

[772] *See supra* section II.D.1.c.

[773] NYTOs Rehearing Request at 22-23 n.60 (quoting *Kokesh*, 581 U.S. at 461); *see also id.* at 22-23 nn. 56, 61 (citing *Cal. Indep. Sys. Operator Corp. v. FERC*, 372 F.3d 395, 398 (D.C. Cir. 2004) (the Commission's authority is defined by Congress)*; Altamont Gas Transmission Co. v. FERC*, 92 F.3d 1239, 1248 (D.C. Cir. 1996) (the Commission cannot do indirectly what it could not do directly)).

[774] PacifiCorp Rehearing Request at 11.

can serve different purposes, have different structures, and flow from different sources of authority.

413. The Supreme Court's decision in *Kokesh*[775] supports our conclusion that the fact that a financial sanction is assessed for conduct—here, failure to complete a study by the required deadline—does not render it a civil penalty of the sort that conflicts with or exceeds Congress's enactment of statutory civil penalty authorities in the FPA. In *Kokesh*, the Supreme Court differentiated between penalties, even those expressly labeled as "penal," that are imposed as punishment versus other pecuniary sanctions. It explained that this inquiry turned on whether (1) the wrong sought to be redressed is a wrong to the public (an offense committed against the State) or a wrong to the individual and (2) whether it was imposed for the purpose of punishment and to deter others from offending in like manner, as opposed to compensating a victim for a loss.[776] Similarly, in *Meeker v. Lehigh Valley Railroad Company*, the Court held that an order by the Interstate Commerce Commission, which directed a railroad company to refund and pay damages to a shipping company for excessive shipping rates, was not imposing a penalty for purposes of the statute of limitations, given that the payment was to redress a private

[775] In *Kokesh*, the Court considered whether the general statute of limitations applicable for "action, suit or proceeding for the enforcement of any civil fine, penalty, or forfeiture, pecuniary or otherwise," 28 U.S.C. § 2462, applied to claims for disgorgement as a sanction for violating a federal securities law. 581 U.S. at 457.

[776] *Id.* at 461 (quoting *Huntington v. Attrill*, 146 U.S. 657, 667 (1892)).

injury, rather than punitive.[777] Here, Order No. 2023 implemented a system of deadlines and penalties for late studies not to redress a wrong to the public, as under FPA sections 315, 316, and 316A, or to punish, but instead to effectively adjust what transmission providers can charge based on study timeliness.

414. Specifically, Order No. 2023's deadline and penalty structure was adopted to define substantive terms of the commercial relationship between particular parties—transmission providers and interconnection customers—in the Commission-jurisdictional context of regulating interconnection, ensuring just and reasonable rates, and avoiding degradation of service.[778] The Commission in Order No. 2023 did not invoke a need to punish or to label transmission providers as wrongdoers as a rationale for its action and, in fact, stated that it was "not finding that transmission providers have necessarily acted

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[777] 236 U.S. 412, 423 (1915) ("The words 'penalty or forfeiture' in this section refer to something imposed in a punitive way for an infraction of a public law, and do not include a liability imposed solely for the purpose of redressing a private injury, even though the wrongful act be a public offense, and punishable as such. Here the liability sought to be enforced was not punitive, but strictly remedial . . . .").

[778] *See supra* section II.D.1.c (explaining that the penalty structure reflects how the interconnection relationship may impact overall rates for consumers and the costs to interconnection customers of late studies, in terms of defining the charges transmission providers may assess for such studies as a function of their timeliness); *Kokesh*, 581 U.S. at 463 (explaining that one factor that favored concluding that disgorgement was a penalty falling within 28 U.S.C. § 2462 was that the SEC was acting to protect the public interest, writ large, rather than standing in the shoes of particular parties, reflecting that the violation for which the remedy was sought was committed against the United States, rather than aggrieved individuals); *cf. Oneok, Inc. v. Learjet, Inc.*, 575 U.S. 373, 385 (2015) (discussing, in the context of preemption, the importance of looking to the aim of an initiative in assessing whether it crosses a jurisdictional boundary).

in bad faith."[779] The Commission established safeguards to avoid punitive results, including the cap on penalties[780] and the appeals process.[781] The appeals process also takes into account the broader economic effects of regulating this interaction between interconnection customers and transmission providers by ensuring that transmission providers are not held to unduly strict standards that could result in economically inefficient outcomes or unjust and unreasonable rates.[782] Likewise, and contrary to PJM's claim that the failure to remit the penalties under Order No. 2023 to the Treasury demonstrates that these penalties are beyond the Commission's authority, the fact that the penalties are disbursed to interconnection customers distinguishes them from the sort of sanctions addressed in *Kokesh* and authorized in FPA sections 315, 316, and 316A.[783]

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[779] Order No. 2023, 184 FERC ¶ 61,054 at P 966; *see Gabelli v. S.E.C.*, 568 U.S. 442, 451–52 (2013).

[780] *See Kokesh*, 581 U.S. at 466-67 (finding it significant that disgorgement sometimes exceeds the profits gained as the result of a violation, in rejecting an argument that disgorgement was remedial rather than punitive); *cf. also Liu v. Sec. & Exch. Comm'n*, 140 S. Ct. 1936, 1940, 1947 (2020) (holding that "a disgorgement award that does not exceed a wrongdoer's net profits and is awarded for victims is equitable relief permissible under [15 U.S.C. § 78u(d)(5)]").

[781] *See* Order No. 2023, 184 FERC ¶ 61,054 at PP 875, 972, 984-85.

[782] *Cf. id.* P 1003 (noting that the appeals process is an avenue to account for delays beyond a transmission provider's control, such as those due to *force majeure*, which could excuse a failure to perform at a particular standard).

[783] *Kokesh*, 581 U.S. at 464-65 (explaining that in many cases SEC disgorgement is not compensatory, because disgorged profits are not necessarily paid to investors but rather paid to the district court and may ultimately be paid to the Treasury); *see also id.* at 462-63.

And, as the Commission recognized, delayed interconnection studies impose financial harm on interconnection customers,[784] reinforcing that the penalties under Order No. 2023 help to ensure that the transmission provider is compensated for performing interconnection studies based on whether it achieves (or the extent that it fails to achieve) performance standards relating to the timeliness of those studies.[785]

415. Thus, and consistent with our broad discretion in determining how to ensure just and reasonable rates,[786] we continue to find that the study delay penalty structure implemented in Order No. 2023 is an appropriate exercise of our authority under FPA section 206. Likewise, we also are not persuaded by related arguments asserting that the study delay penalty structure is otherwise in tension with the civil penalty provisions in the FPA or contradicts the Commission's policies on enforcement.

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[784] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 971.

[785] *Cf. Kokesh*, 581 U.S. at 462-63 (discussing cases in which liability was found to remedy private wrongs, with payments made to the party suffering the injury, as essentially compensatory not imposing penalties).

[786] *See, e.g.*, *Morgan Stanley Cap. Grp. Inc. v. Pub. Util. Dist. No. 1 of Snohomish Cnty., Wash.*, 554 U.S. 527, 532 (2008) (explaining that the just and reasonable standard is "obviously incapable of precise definition" such that the Commission is afforded "great deference" in its rate decisions); *Mobil Oil Expl. & Producing Se. Inc. v. United Distrib. Cos.*, 498 U.S. 211, 214 (1991) (explaining that the just and reasonable standard, "far from binding the Commission . . . accords it broad ratemaking authority" and does not compel a particular approach); *MISO Transmission Owners v. FERC*, 45 F.4th at 261 ("FERC is entitled to adopt any methodology it believes will help it ensure that rates are just and reasonable, so long as it doesn't adopt that methodology in an arbitrary and capricious manner.") (citing *S. Cal. Edison Co. v. FERC*, 717 F.3d 177, 182 (D.C. Cir. 2013)).

416. For instance, PJM argues that, in contrast to other tariff penalty provisions adopted pursuant to FPA section 205, the Commission in Order No. 2023 "impos[ed] a mandate on transmission providers to include such a provision in their tariffs involuntarily," thereby bypassing the penalty provision in FPA section 315.[787] As just discussed, the study delay penalty structure does not bypass any penalty provisions of the FPA but, instead, was adopted pursuant to the Commission's independent ratemaking authority. Moreover, PJM fails to explain its assertion that the scope of permissible tariff mechanisms to ensure such rates are just and reasonable should substantially differ between FPA sections 205 and 206.[788] We do not find this argument supported by the statute, particularly given that a purpose of section 206 is to allow the Commission to replace, by its own initiative, rates that may have resulted from section 205 filings but have since become unjust and unreasonable .

417. We are also not persuaded by NYTO's reliance on the Commission's policy statements in the enforcement context.[789] These policy statements are not directed toward

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[787] PJM Rehearing Request at 30.

[788] PJM's implication that penalties have only been previously adopted under FPA section 205 is also incorrect. *See* Order No. 890, 118 FERC ¶ 61,119 at PP 40, 1324-57, *order on reh'g*, Order No. 890-A, 121 FERC ¶ 61,297, *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299, *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228, *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (adopting, through generic proceedings under FPA section 206, a penalty structure that is similar in several respects to that adopted in Order No. 2023).

[789] *See* NYTOs Rehearing Request at 22 & n.60 ("Under the Commission's policy statements on enforcement and compliance, penalties are meted out for wrongdoing and

the study delay penalty structure set forth in Order No. 2023 as an exercise of the Commission's authority under FPA section 206, but instead address how the Commission will consider civil penalties and other remedies pursuant to its separate enforcement authorities granted under other sections of the FPA. As to similar arguments by MISO TOs, PJM, and NYISO asserting that the study delay penalty structure set forth in Order No. 2023 is in tension with Commission policy in enforcement cases,[790] the study delay penalty structure adopted in Order No. 2023 is not an implementation of the Commission's enforcement authority under FPA sections 315, 316, or 316A. Moreover, and contrary to these arguments, the Commission has adopted appropriate mechanisms to ensure that the study delay penalty structure is not punitive and can account for the facts of particular cases, as discussed above.

418. We disagree with PacifiCorp's claim that the Commission erred in Order No. 2023 because it failed to address a comment questioning whether a violation of the study deadlines giving rise to penalties under Order No. 2023 could also be treated as a tariff

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misconduct." (citing *Enf't of Statutes, Ords., Rules, and Reguls.*, 113 FERC ¶ 61,068 at PP 14, 26); *see also id.* at 27.

[790] *See* MISO TOs Rehearing Request at 31 (asserting that the study delay penalty structure results in a deprivation of due process whereas "both the Commission's Office of Enforcement and NERC Reliability Standard enforcement involve fact finding and affording the targeted entity the opportunity to present evidence to demonstrate lack of fault or mitigating circumstances *before* a penalty is imposed"); NYISO Rehearing Request at 31 & n.89 (arguing that "the Commission may not establish penalties that are excessively punitive in relation to the severity of a violation" and citing Commission policies in the enforcement context); PJM Rehearing Request at 31 n.67.

violation under the FPA. As an invocation of the Commission's ratemaking authority under section 206, Order No. 2023 did not address or invoke the Commission's civil enforcement authority, practices, or policies. The Commission may consider whether a particular failure to meet a study deadline meets the statutory, regulatory, and policy considerations to constitute a tariff violation warranting enforcement action in an appropriate case, on the facts presented. Attempting to further resolve this issue at this time is beyond the scope of this proceeding.

419. We further disagree with AEP's claim that the Commission lacks authority to adopt the study delay penalty structure set forth in Order No. 2023 on the theory that Commission precedent forbids it from awarding monetary damages. None of the cases AEP cites addressed a penalty structure similar to that presented here, supported by the Commission's authority to ensure just and reasonable rates. Rather, in *Bachofer v. Calpine Corp.*, the Commission found that it lacked jurisdiction to address claims for property damage due to the alleged actions of a generation facility, that such allegations "are more appropriately addressed in some other forum," and that "monetary damages are also beyond the scope of the Commission's authority under Part II of the Federal Power Act."[791] In *TranSource, LLC v. PJM Interconnection, L.L.C.*, the Commission explained that monetary relief for "lost business opportunities and other litigation-related expense" allegedly suffered by TranSource was beyond the scope of relief the Commission could

[791] 134 FERC ¶ 61,100 at P 9.

award.[792] *New England Power Pool* involved a rehearing request directed toward the effective date of certain tariff changes, where no waiver of the Commission's prior notice requirements had been sought, and reflected that the Commission cannot engage in retroactive ratemaking.[793] Here, the Commission is not confronted by claims seeking post-hoc, consequential monetary damages to make a specific party whole following alleged wrongdoing. Rather, it is exercising its FPA section 206 authority to prospectively and generically regulate the commercial relationship between interconnection customers and transmission providers, including as to the appropriate charges for interconnection studies.

v. Commission Precedent

(a) Requests for Rehearing

420. MISO TOs assert that the Commission failed to heed its precedent in Order No. 2003, which rejected liquidated damages for study delays, because that approach might undermine the transmission provider's ability to economically administer its study process.[794] Likewise, MISO TOs also point to Order No. 845, asserting that the Commission there rejected requests to include penalties for study delays, recognizing that

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[792] 168 FERC ¶ 61,119 at P 285 & n.896.

[793] 98 FERC ¶ 61,299 at 62,290 & n.6.

[794] MISO TOs Rehearing Request at 24-25 (arguing that the Commission failed to respond to MISO TOs comments on this point).

often the transmission provider will not be at fault for such delays.[795] MISO TOs also contend that, as recently as November 29, 2022, the Commission affirmed the reasonable efforts standard and rejected firm study deadlines and does not discuss in Order No. 2023 why it now abandons that result.[796] Additionally, MISO TOs claim that Order Nos. 890 and 890-A reflect that the Commission imposed study delay penalties only when transmission providers routinely failed to meet deadlines, failed to meet deadlines for a certain number of studies, and were imposed only after they had the opportunity to present evidence of extenuating circumstances.[797] MISO TOs contrast Order No. 2023's penalty structure with that in Order No. 890, arguing that it does not make sense to grant less flexibility to transmission providers for conducting interconnection studies than transmission studies, given that interconnection studies are more complex, more numerous, and involve more requests to be studied.[798]

421. NYISO and Indicated PJM TOs assert that the Commission was wrong in Order No. 2023 to compare the penalty structure it adopted to "traffic ticket" penalties,

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[795] *Id.* at 25 (arguing that the Commission failed to articulate a meaningful response, but instead simply asserts that it is attempting to remedy unjust and unreasonable rates and ensure interconnection in a reliable, efficient, transparent, and timely manner; contending that the penalty structure will not accomplish these aims).

[796] *Id.* at 26 (citing *PJM Interconnection, L.L.C.*, 181 FERC ¶ 61,162 at P 138).

[797] *Id*. at 20-24 (noting that in Order 890-A, the Commission clarified that such penalties would apply only to transmission providers unable to justify their repeated failure to meet deadlines and discussed the factors that might excuse such failures).

[798] *Id.* at 23-24; *see also* NYISO Rehearing Request at 31-32.

asserting that such penalties are applied solely based on objective criteria that can be applied automatically, whereas study delays raise more complex questions regarding the fault for any delay.[799] NYISO contends that the Commission failed to address, in a reasoned fashion, NYISO's argument that reliability penalties are distinguishable from the penalty structure adopted under Order No. 2023 because reliability penalties are generally non-financial and, when such penalties apply, there are numerous mechanisms in place to avoid unfairly harsh results.[800]

422. Indicated PJM TOs also claim that Order No. 2023's penalty structure is unlawful because it impermissibly attempts to override RTO/ISO governing documents.[801] In particular, they assert that the PJM Consolidated Transmission Owners Agreement (PJM CTOA) does not authorize PJM to assign penalty amounts to PJM transmission owners.

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[799] NYISO Rehearing Request at 31 (stating that "[t]he fact that the Commission recognized the need for an appeals process to resolve inevitable factual disputes about penalties demonstrates that the traffic ticket model is not relevant"); Indicated PJM TOs Rehearing Request at 19-21.

[800] NYISO Rehearing Request at 31-32 (asserting that the appeals process, which the Commission discussed in response to these arguments, is not an adequate process because it is inchoate and unreasonably presumes fault on the part of transmission providers and presumes that penalties are warranted for delays); *see id.* at 31 n.85 ("Violators may avoid penalties for a variety of reasons including demonstrating a culture of compliance, cooperating with investigations, and taking effective remedial actions. Thus, the reliability penalty regime incorporates due process.").

[801] Indicated PJM TOs Rehearing Request at 8-12 (citing *Atl. City I*, 295 F.3d at 10 ("Nor may FERC prohibit public utilities from filing changes in the first instance."); *Atl. City Elec. Co. v. FERC*, 329 F.3d 856, 859 (2003) (per curiam) (*Atl. City II*) ("FERC has no jurisdiction to enter limitations requiring utilities to surrender their rights under § 205 of the FPA to make filings to initiate rate changes.")).

According to Indicated PJM TOs, under the *Atlantic City* precedent, the Commission cannot prevent transmission providers from deciding how to propose to recover their costs and cannot direct transmission providers to make cost recovery filings in any prescribed manner (here, in alleged contravention of the CTOA).[802]

(b) Determination

423. We are not persuaded by arguments that the deadline and penalty structure in Order No. 2023 is inconsistent with the Commission's precedent or that, to the extent it differs from other penalty structures in the Commission's precedent, that departure is insufficiently explained. For instance, certain parties argue that in Order No. 845 the Commission acknowledged that study delays may be attributable to factors not within the control of transmission providers and that the Commission in Order No. 845 declined to implement automatic penalties for study delays.[803] The Commission in Order No. 2023, however, explained the reasons for its change in approach: that its determination was based on the evidence in the record, including evidence of worsening queue delays based on the reporting data collected under Order No. 845 and that failure on the part of transmission providers to timely complete studies was a significant reason for those delays.[804] Thus, even though it remains the case that there are factors outside of a

[802] *Id.* at 11-12.

[803] *See* AEP Rehearing Request at 7-8; MISO TOs Rehearing Request at 24-25.

[804] Order No. 2023, 184 FERC ¶ 61,054 at P 1012; *see supra* PP 281-282.

transmission providers' control that may contribute to interconnection study delays, on this record the Commission reasonably concluded that elimination of the reasonable efforts standard and adoption of a study delay penalty structure is warranted notwithstanding that it took a different approach in Order No. 845.[805] We sustain that determination.

424. We are also not convinced that the adoption of penalties for late interconnection studies conflicts with Order No. 2003, in which the Commission declined to include a liquidated damages provision in the *pro forma* LGIP, observing that it "may undermine the Transmission Provider's ability to economically administer its study process."[806] At the outset, to the extent that the rehearing requests rely on the Commission's decision not to include the proposed liquidated damages provision in Article 5.1 of the *pro forma* LGIA, that proposed liquidated damages provision is distinguishable in that it is related to a transmission provider's failure to complete construction of interconnection facilities in a timely fashion.[807] Furthermore, even in this context, the Commission simply

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[805] In particular, the Commission has established the appeals process to take into account the possibility that an interconnection study is delayed due to factors beyond the control of the transmission provider.

[806] Order No. 2003, 104 FERC ¶ 61,103 at P 898.

[807] *See id.* PP 851-52 (describing the liquidated damages provision proposed the Commission proposed to include in Article 5.1); *id.* P 854 (explaining that while there were some common issues regarding the two liquidated damages provisions the Commission was considering, "the provisions serve different functions"); *id.* PP 868-85 (discussing the proposed LGIA liquidated damages provision, and the Commission's rationale for declining to adopt it).

declined to impose a liquidated damages provision in the *pro forma* LGIP, but was clear that such provisions were permissible in LGIAs upon agreement of the parties.[808]

425. Moreover, the Commission in Order No. 2023 did not take action based on the record that was available in 2003. Instead, the Commission has adopted the specific deadline and penalty structure set forth in Order No. 2023, as clarified herein, based on the record before us in this proceeding. This record is informed by an additional two decades of experience,[809] which justify the need for the reforms adopted in Order No. 2023, including the adoption of study delay penalties.[810] The Commission has also taken steps (e.g., site control requirements, commercial readiness deposits, and withdrawal penalties) directed toward reducing the number of speculative interconnection requests and has discussed the costs to interconnection customers of interconnection queue

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[808] *See, e.g.*, Order No. 2003-A, 106 FERC ¶ 61,220 at P 249; *see also N.Y. Indep. Sys. Operator, Inc.* 108 FERC ¶ 61,159 at PP 77-78 (liquidated damages are permissible upon agreement of the parties).

[809] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 3 ("The electricity sector has transformed significantly since the issuance of Order Nos. 2003 and 2006. . . . These new challenges are creating large interconnection queue backlogs and uncertainty regarding the cost and timing of interconnecting to the transmission system, increasing costs for consumers.").

[810] Even in Order No. 2003—when it was not confronting the magnitude of interconnection queue backlogs and late studies occurring now—the Commission recognized "value of providing an incentive to complete Interconnection Studies." Order No. 2003, 104 FERC ¶ 61,103 at P 898. It also concluded that it had statutory authority to adopt liquidated damages provisions. *Id.* P 857.

backlogs and late interconnection studies.[811] The penalty structure adopted in Order No. 2023 further includes several safeguards, including the appeal mechanism to seek relief from penalties, and we do not believe that the penalty structure will be punitive.[812] On the record before us now, we continue to find that a structure where penalties are incurred for late interconnection studies is warranted notwithstanding that the Commission declined to adopt a proposal for liquidated damages for study delays on a different record twenty years ago.

426. MISO TOs also point to a Commission decision from the end of 2022 in which—MISO TOs claim—the Commission "affirmed the reasonable efforts standard and eschewed the adoption of firm study deadlines."[813] In that decision, however, the Commission approved PJM's FPA section 205 proposal because, at that time, the reasonable efforts standard was "the currently applicable standard under the Commission's *pro forma* LGIP and LGIA," noting that in Order No. 845 the Commission had declined to eliminate the reasonable efforts standard.[814] The Commission has now

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[811] *See, e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at PP 3, 27, 37-40, 43, 50.

[812] *Id.* P 972.

[813] MISO TOs Rehearing Request at 26 (citing *PJM Interconnection, L.L.C.*, 181 FERC ¶ 61,162 at P 138).

[814] *PJM Interconnection, L.L.C.*, 181 FERC ¶ 61,162 at P 138 ("Accordingly, *at this time*, we decline to require PJM to adopt firm study deadlines instead of its proposed 'Reasonable Efforts' standard." (emphasis added)). Because the Commission relied on the fact that the reasonable efforts standard was the then-applicable *pro forma* standard, nothing in that case conflicts with our decision here.

determined, based on the record in this proceeding and under FPA section 206, that the reasonable efforts standard is no longer just and reasonable and specified the replacement standards, and transmission providers (including PJM) are required to submit compliance filings to adopt the requirements of Order No. 2023, as modified herein.

427. We disagree with Indicated PJM TOs' and NYISO's claims that the Commission erred in comparing the penalty structure under Order No. 2023 to traffic ticket penalties, asserting that such traffic ticket penalties are assessed solely based on objective criteria. Under Order No. 2023's penalty structure, penalties are incurred based on objectively identifiable criteria set forth in the tariff (failure to complete the study in the required timeframe) and transmission providers are not subject to sanctions or consequences other than the penalty set forth in the tariff and approved by the Commission.[815] While Indicated PJM TOs and NYISO argue that, in light of the appeal process, the ultimate imposition of the penalty is not based on objectively identifiable behavior, the approach adopted in Order No. 2023 is consistent with the Commission's traffic ticket penalty precedent which includes an "appeals process" under which the Commission considers "all relevant circumstances."[816]

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[815] *See Cal. Indep. Sys. Operator Corp.*, 134 FERC ¶ 61,050, at P 34 (2011) ("[T]hree qualifications must be met: (1) The activity must be expressly set forth in the tariff; (2) The activity must involve objectively identifiable behavior; and (3) The activity does not subject the actor to sanctions or consequences other than those expressly approved by the Commission and set forth in the tariff, with the right of appeal to the Commission.").

[816] *Id.* P 37.

428. Nor, contrary to Indicated PJM TOs' claim, is any aspect of the penalty structure impermissibly "delegate[d] . . . to third parties" such as "jurisdictional utilities."[817] As just discussed, the trigger for penalties occurs through objective criteria, which were determined by the Commission on the record in this proceeding. The appeals process is conducted by the Commission. To the extent that RTOs/ISOs seek to recover the costs of penalties assessed to them through section 205 filings, whether through individual filings or a default structure, the Commission will review those filings to determine whether they are just and reasonable, and not unduly discriminatory or preferential.[818]

429. As to NYISO's argument that Order No. 890's transmission study penalties are not relevant to the Commission's adoption of the penalty structure in Order No. 2023, NYISO does not refute the numerous similarities between these two structures. These include that, in Order No. 890, the Commission: imposed set time frames for the completion of transmission studies and found that transmission providers must have a meaningful stake in meeting those deadlines;[819] included a process to waive penalties in

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[817] Indicated PJM TOs Rehearing Request at 22.

[818] Indicated PJM TOs also argue that the Commission "cannot delegate authority to RTOs and ISOs to determine the reasonableness of study delay penalty allocations" such that it would be inappropriate to "giv[e] deference to the RTO's/ISO's decision in a 'good cause' proceeding." Indicated PJM TOs Rehearing Request at 24. This argument conflates appeals of penalties incurred by RTOs/ISOs with how those penalties may be allocated as a matter of RTO/ISO cost recovery under FPA section 205 proposals. Moreover, as just explained, the Commission has not impermissibly delegated its authority to RTOs/ISOs.

[819] Order No. 890, 118 FERC ¶ 61,119 at P 1340; Order No. 890-A, 121 FERC ¶

unique circumstances but declined to create broad categories of exemptions from penalties;[820] rejected arguments that imposing deadlines and penalties will necessarily decrease study quality or harm system reliability;[821] discussed other reforms that would help achieve transmission deadlines, but did not take piecemeal action by waiting to observe the effects of those reforms;[822] provided for the distribution of penalties to transmission customers;[823] did not exempt RTOs;[824] and prohibited transmission providers from recovering study delay penalties through their transmission rates.[825] In light of these similarities, we continue to conclude that Order No. 890 is relevant Commission precedent supporting the study delay penalty structure adopted in Order No. 2023.[826]

61,297 at P 741.

[820] Order No. 890, 118 FERC ¶ 61,119 at PP 1342-43, 1349; Order No. 890-A, 121 FERC ¶ 61,297 at PP 743-45.

[821] Order No. 890, 118 FERC ¶ 61,119 at P 1345; Order No. 890-A, 121 FERC ¶ 61,297 at P 742.

[822] Order No. 890, 118 FERC ¶ 61,119 at P 1346.

[823] *Id.* P 1351.

[824] *Id.* P 1353.

[825] *Id.* P 1357; *see also* Order No. 890-A, 121 FERC ¶ 61,297 at PP 486, 754-57 (noting that the Commission could consider case-specific cost recovery proposals from RTOs/ISOs under FPA section 205).

[826] NYISO's argument that it does not conduct the kinds of transmission studies that Order No. 890 addressed and that such studies are "not a major issue for most other RTOs/ISOs," NYISO Initial Comments at 36; *see also* NYISO Rehearing Request at 32

430. The Commission in Order No. 2023 also recognized that there were differences between the penalty structure in Order No. 2023 as compared to Order No. 890, but found that they were "warranted by the significant and growing interconnection queue backlogs."[827] In other words, far from NYISO's suggestion that the Commission was unreasonably citing "the fact that interconnection studies are more numerous, complex, and susceptible to delays than transmission studies as a reason for treating the two identically,"[828] the Commission was here explaining why the differences between these two structures were appropriate.[829] We continue to find those differences warranted,

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n.87, does not negate these similarities for purposes of determining a just and reasonable *pro forma* approach to ensuring interconnection study timeliness under Order No. 2023. *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1001 (rejecting NYISO's argument); *cf.id.* PP 965-72 (finding that the imposition of study delay penalties was just and reasonable and would not be punitive as to transmission providers); *id.* PP 1004-07, 1013.

[827] Order No. 2023, 184 FERC ¶ 61,054 at P 1013 (noting that interconnection studies "are more numerous, complex, and susceptible to delays" and "there is a growing number of interconnection customers affected by study delays. We believe that these factors underscore the need for transmission providers to meet study deadlines and the need to provide an incentive, in the form of study delay penalties").

[828] NYISO Rehearing Request at 32 n.87.

[829] *See also supra* PP 281-282 (explaining how previous reforms had failed to ensure timely interconnection study queue processing or resolve significant interconnection queue backlogs). This explanation for the differences between Order No. 2023 and Order No. 890 also addresses the substance of NYISO's comment in which it also observed such differences. *See* NYISO Rehearing Request at 32 n.87; NYISO Initial Comments at 36 (arguing that the penalty structure proposed in the NOPR differed from that in Order No. 890 because transmission study penalties were not imposed automatically, without notification to the Commission). We further note that NYISO's characterization of Order No. 2023 as strict liability is inaccurate, and that the appeal process in particular addresses these concerns. *See supra* PP 359-360.

based on the same considerations articulated in Order No. 2023,[830] notwithstanding arguments that the approach in Order No. 2023 represents a departure from the approach the Commission took in Order No. 890. These considerations reflect greater need for direct, clear, and straightforward incentives for transmission providers to achieve interconnection study timeliness than were pertinent in the context of transmission studies in Order No. 890.

431. We also find that the Commission adequately responded to NYISO's argument that "reliability penalties are generally non-financial and that when financial penalties do apply there are numerous mechanisms in place to avoid unfairly harsh results," particularly a "risk-based evaluation of all the facts and circumstances related to an individual violation."[831] Under Order No. 2023, transmission providers have "the opportunity to seek relief from a penalty by filing an appeal, which the Commission will closely scrutinize and in response to which the Commission will issue an order."[832] We have elsewhere rejected arguments that this appeals process is impermissibly "inchoate"

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[830] Order No. 2023, 184 FERC ¶ 61,054 at P 1013 ("[C]ompared to transmission service requests, interconnection studies are more numerous, complex, and susceptible to delays. Further, as noted above, there is a growing number of interconnection customers affected by study delays. We believe that these factors underscore the need for transmission providers to meet study deadlines.").

[831] NYISO Rehearing Request at 31-32 & n.85.

[832] Order No. 2023, 184 FERC ¶ 61,054 at P 1001.

and arguments that Order No. 2023 unreasonably presumes that "transmission providers are at fault for study delays and that all study delays warrant penalties."[833]

432. Indicated PJM TOs' contention that Order No. 2023 is unlawful because the Commission has attempted therein to override RTO/ISO governing documents, in contravention of *Atlantic City I* and *Atlantic City II*,[834] is misplaced.[835] Indicated PJM TOs are misreading *Atlantic City I* and *Atlantic City II*, which do not stand for the proposition that a particular RTO/ISO's approach to its own governance can override the Commission's authority under FPA section 206 to set just and reasonable rates. Rather, in *Atlantic City I*, the Commission had required modifications to a proposed ISO structure including "to eliminate a provision allowing utilities 'to unilaterally file to make changes in rate design, terms or conditions of jurisdictional services,' except that they could still

[833] NYISO Rehearing Request at 31; *see, e.g.*, *supra* section II.D.1.c.ii.

[834] *See* Indicated PJM TOs Rehearing Request at 6 (arguing that "the PJM CTOA does not authorize PJM to assign penalty amounts to PJM transmission owners" and, under these cases "the Commission cannot prevent public utilities from deciding how to recover their costs and cannot direct public utilities to make cost recovery filings in any prescribed manner"); *id.* at 8-12.

[835] We note that this argument overstates the effect of Order No. 2023, which did not "direct" any RTOs/ISOs, including PJM, to make cost recovery filings at all, let alone do so according to any particular structure. *See* Order No. 2023, 184 FERC ¶ 61,054 at P 994 (providing that RTOs/ISOs "may" submit FPA section 205 filings and that they may propose a default structure or make individual section 205 filings to recover costs); *id.* P 998 (noting potential avenues to fund study delay penalties, such as collecting administrative fees).

unilaterally seek a change in the transmission revenue requirements."[836] As a result of these required modifications, changes in rate design could not be made through unilateral FPA section 205 filings by individual utilities, but instead "only the ISO could propose changes in rate design."[837] The court held that the Commission erred in doing so, explaining that the Commission lacked statutory authority "to require the utility petitioners to cede rights expressly given to them in section 205 of the Federal Power Act."[838]

433. Thus, the basis for the court's remands in *Atlantic City I* and *Atlantic City II* was that the Commission exceeded its jurisdiction in requiring utilities to surrender, to an RTO/ISO, their FPA section 205 right to propose changes to rate designs. These cases do

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[836] *Atl. City I*, 295 F.3d at 7; *see also id.* at 6-7 (explaining that the proposed agreement permitted the "transmission owners to file changes in transmission service rate design and non-rate terms and conditions to the tariff under section 205," subject to potential rejection of a proposed change by the independent PJM Board by majority vote).

[837] *Id.* at 7.

[838] *Id.* at 9; *see also id.* at 10 (explaining that the Commission was "purport[ing] to deny the utility petitioners *any* ability to initiate rate design changes with respect to services provided with their own assets," thereby "eliminat[ing] the very thing that the statute was designed to protect—the ability of the utility owner to set the rates it will charge prospective customers, and change them at will, subject to review by the Commission." (quotation marks omitted); *id.* at 11 (holding that the Commission cannot deny "the petitioners their rights provided for by a statute enacted by both houses of Congress and signed into law by the [p]resident"); *Atl. City II*, 329 F.3d at 859 ("[W]e reaffirm and clarify our prior decision that FERC has no jurisdiction to enter limitations requiring utilities to surrender their rights under § 205 of the FPA to make filings to initiate rate changes.").

not establish that the Commission's power under FPA section 206, following appropriate findings, to "determine the just and reasonable rate, charge, classification, rule, regulation, practice, or contract to be thereafter observed and in force"[839] is subordinate to a particular RTO/ISO's governing documents. To the contrary, the court acknowledged the Commission's authority to require transmission providers to file particular rates upon a finding that existing rates are unlawful, under FPA section 206.[840]

vi. Alternative Approaches and Miscellaneous Issues

(a) Requests for Rehearing

434. A number of the rehearing requests assert that the Commission could have taken an alternative approach to eliminating the reasonable efforts standard and adopting the deadline and penalty structure set forth in Order No. 2023. EEI urges that the Commission could have instead "ensure[d] transmission providers are afforded specified timeframes to complete certain tasks during studies."[841] MISO TOs assert that the Commission should have taken an approach that parallels the one adopted for transmission studies in Order No. 890 of monitoring for chronic delays, investigating

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[839] 16 U.S.C. § 824e(a).

[840] *See, e.g.*, *Atl. City I*, 295 F.3d at 10 ("The courts have repeatedly held that FERC has no power to force public utilities to file particular rates *unless it first finds the existing filed rates unlawful*. . . . [T]he power to initiate rate changes rests with the utility and cannot be appropriated by FERC *in the absence of a finding that the existing rate was unlawful*." (emphasis added)).

[841] EEI Rehearing Request at 9 (arguing that this approach acknowledges that one entity's actions often cannot commence until another entity's work is completed).

causes, and then imposing a remedy.[842] NYISO argues that the Commission could instead allow "individual RTO/ISO regions to propose alternative rules as independent entity variations" or build on Order No. 845 by updating and enhancing its reporting requirements, which would allow more targeted actions to address problems.[843]

435. NYISO asserts that Order No. 2023's adoption of a 10 business-day grace period does not provide meaningful relief to transmission providers, like NYISO, that will be required to study large numbers of interconnection requests, and that affording the same grace period to all transmission providers despite differing workloads is not reasoned decision-making.[844] It further argues that the transition period the Commission adopted in Order No. 2023 simply postpones the problems with RTO/ISO penalty cost recovery, without resolving that problem.[845] And NYISO claims that the Commission significantly increased penalty levels from the levels proposed by the NOPR, without a reasoned basis for doing so.[846]

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[842] MISO TOs Rehearing Request at 36-37.

[843] NYISO Rehearing Request at 20-21.

[844] *Id.* at 35.

[845] *Id.* at 37.

[846] *Id.* (asserting that the Commission's example estimating a $63,000 penalty for a six-month delay under the NOPR structure does not show that the penalties assessed under Order No. 2023 will be proportionate or non-punitive, particularly as to not-for-profit RTOs/ISOs).

436. Indicated PJM TOs argue that *pro rata* disbursement of penalties to interconnection customers is unduly discriminatory, given that study deposits increase based on the size of the generating facility making the interconnection request.[847] They assert that Order No. 2023 disregards the different costs associated with larger generating facilities and seeks to treat interconnection customers with substantially fewer costs as equals, which they claim is inconsistent with precedent.[848]

437. Invenergy argues that the Commission erred in failing to provide for penalties when an affected system misses a pre-study deadline, such as the 20 business day deadline to indicate whether it will conduct an affected system study, or the 15 business day deadline to provide a cost estimate and schedule for that study.[849] Invenergy notes that, in contrast to the 150-day deadline for cluster studies, which is measured from the end of the customer engagement window, an affected system will be expected to meet pre-study deadlines only when and if the host transmission provider provides a notice that it has been identified as an affected system for a particular interconnection customer.[850] Invenergy argues that the Commission should apply a $2,000 per business day penalty on

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[847] Indicated PJM TOs Rehearing Request at 40-41.

[848] *Id.* at 40 (citing *Ala. Elec. Coop.*, 684 F.2d at 28).

[849] Invenergy Rehearing Request at 2-3.

[850] *Id.* (asserting that there is a "risk that the failure of an Affected System to meet pre-study deadlines will delay commencement of the Affected System study (and thus the start of the 150-day clock applicable to that study)").

affected systems for failing to meet pre-study deadlines. Clean Energy Associations present similar arguments in a request for clarification.[851]

438. MISO argues that Order No. 2023 should be revised to provide that RTOs that conduct multiple system impact studies may include a combined timeline for cluster studies for penalty purposes.[852] MISO also argues that the Commission should modify the transition period to properly account for delays in clusters that pre-date the effective date of Order No. 2023, because delays in such clusters could cause backlogs that will affect future studies.[853] It claims that doing so is necessary to avoid retroactive effects that penalize RTOs for delays prior to Order No. 2023's effective date, which would contravene the filed rate doctrine and the rule against retroactive ratemaking.

(b) Determination

439. In Order No. 2023, the Commission stated that transmission providers should distribute any collected study delay penalties "to interconnection customers in the relevant study on a pro rata per interconnection request basis to offset their study costs."[854] Indicated PJM TOs assert that this approach is unduly discriminatory because it results in equal treatment of differently situated customers, specifically those that paid

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[851] *See* Clean Energy Associations Rehearing Request at 76-77.

[852] MISO Rehearing Request at 11-14.

[853] *Id.* at 15-16.

[854] Order No. 2023, 184 FERC ¶ 61,054 at P 963; *see also id*. at P 990; *pro forma* LGIP section 3.9.

larger study deposits or that may have larger final study costs versus those that paid smaller study deposits or that may have smaller final study costs.[855] While the Commission in Order No. 2023 stated that disbursement of interconnection study delay penalties would be on a "pro rata" (i.e., proportionate) basis per interconnection request, it did not further specify how penalties would be distributed. We clarify here that study delay penalties must be distributed on a pro rata basis proportionate to the final study costs paid by each interconnection customer in the relevant study. This approach ensures that the distribution of the penalty (i.e., the amount of the "offset" each interconnection customer receives) is related to the costs paid by the interconnection customer for the relevant study.

440. We decline Invenergy's request that the Commission grant rehearing and find that the study delay penalty of $2,000 per business day applies to the pre-study deadlines for affected systems.[856] The penalties the Commission adopted in Order No. 2023 focus on the process of conducting interconnection studies, and how delays in that process contribute to interconnection queue backlogs. The record in this proceeding does not contain sufficient information regarding persistent delays in the pre-study process for affected systems that contribute to interconnection queue backlogs to persuade us to

[855] Indicated PJM TOs Rehearing Request at 40-41.

[856] For the same reasons discussed in this paragraph, we also reject Clean Energy Associations' similar argument couched as a request for clarification.

extend the study delay penalties to such pre-study deadlines.[857] We further find that imposing penalties on affected system transmission providers would result in unduly discriminatory treatment of similarly situated entities: host transmission providers are also required to meet pre-study deadlines in the *pro forma* LGIP,[858] including deadlines for communications with affected system transmission providers, but incur no penalties for missing those deadlines.

441. In Order No. 2023, the Commission explained that it "decline[d] to adopt alternative proposals [instead of the deadline and penalty approach set forth in Order No. 2023] suggested by various commenters,"[859] and we sustain that decision here in response to similar arguments on rehearing.[860] As to MISO TOs' argument that the Commission

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[857] The opportunities for delay that Invenergy cites are associated with tasks that—particularly compared to the conduct of an interconnection study—are relatively straightforward: providing notice of intent to conduct an affected system study and a non-binding cost estimate and schedule for that study. *See id.* It is therefore not apparent that there should be significant delays associated with these tasks as a general matter, and we will not presume that affected systems will tactically delay such tasks to avoid triggering other deadlines. If such delays arise we may consider further action.

[858] *See, e.g.*, *pro forma* LGIP sections 3.1, 3.4, 3.6.

[859] Order No. 2023, 184 FERC ¶ 61,054 at P 1025.

[860] Even assuming that one or more of these alternative approaches might also address the problem of late interconnection studies contributing to interconnection queue backlogs, leading to unjust and unreasonable rates, this does not demonstrate that the deadline and penalty structure in Order No. 2023 is not just and reasonable. *See Petal Gas Storage, LLC v. FERC*, 496 F.3d 695, 703 (D.C. Cir. 2007) ("[The Commission]is not required to choose the best solution, only a reasonable one."); *ExxonMobil Oil Corp. v. FERC*, 487 F.3d 945, 955 (D.C. Cir. 2007) ("We need not decide whether the Commission has adopted the best possible policy as long as the agency has acted within

should grant rehearing and adopt an approach similar to the approach taken in Order No. 890, the Commission considered the differences from the approach set forth in Order No. 890. It determined that these differences were warranted,[861] and—on rehearing—we affirm that conclusion. The study delay penalty structure appropriately responds to the problem of interconnection study delays contributing to unjust and unreasonable rates by creating strong, direct, and clear incentives on transmission providers while recognizing that the value of interconnection studies is related to their timeliness. Moreover, given that interconnection study delays are already a significant and widespread problem, we find that it would not be appropriate to further delay imposing meaningful incentives while we further "monitor for chronic study delays"[862] by individual transmission providers. Likewise, we find that "updating and enhancing [Order No. 845's] reporting requirements" to "create even more transparency," as NYISO urges,[863] or that, instead of imposing deadlines supported by penalties, the Commission simply provide "specified

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the scope of its discretion and reasonably explained its actions."); *Midwest Indep. Transmission Sys. Operator, Inc.*, 127 FERC ¶ 61,109, at P 20 (2009) ("It is well established that there can be more than one just and reasonable rate . . . .").

[861] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1013 (noting that interconnection studies "are more numerous, complex, and susceptible to delays" and "there is a growing number of interconnection customers affected by study delays. We believe that these factors underscore the need for transmission providers to meet study deadlines and the need to provide an incentive, in the form of study delay penalties"); *id.* P 1025.

[862] MISO TOs Rehearing Request at 36.

[863] NYISO Rehearing Request at 21.

timeframes to complete certain tasks during studies" as EEI suggests,[864] would not be sufficient to address the problem of interconnection queue backlogs and repeatedly delayed interconnection studies.[865]

442. We also decline AEP's request to expand appeal rights beyond the transmission provider that is directly assigned the penalty. In instances where an RTO/ISO incurs a penalty and seeks to recover the cost of that penalty from transmission-owning members, such transmission owners would have the right to intervene in any proceeding under FPA section 205 or file a complaint challenging the recovery of that penalty cost under FPA section 206, as appropriate. We believe that this adequately protects the interests of transmission-owning members of RTOs/ISOs.

443. MISO argues that the Commission should modify the transition period to account for delays in clusters that pre-date the effective date of Order No. 2023 and can cause backlogs that will affect future studies, claiming that this modification is necessary

[864] EEI Rehearing Request at 9.

[865] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1025; *supra* PP 281-282 (explaining that the Commission's previous efforts to address interconnection queue backlogs through Order No. 845's reporting requirements have not been sufficient to remedy this problem, which has worsened since those efforts were undertaken). The Commission has already addressed NYISO's suggestion that "the Commission could allow individual RTO/ISO regions to propose alternative rules as independent entity variations in their Order No. 2023 compliance filings." NYISO Rehearing Request at 20-21; *see* Order No. 2023, 184 FERC ¶ 61,054 at P 1764. We do not, and cannot, prejudge whether such requested variations will be acceptable.

because delays in prior study clusters may affect studies in future clusters.[866] According to MISO, it must be allowed to "clear all pre-effective date 'baked-in' delays before penalties begin" in order to avoid "statutory retroactive effects by penalizing RTOs based on delays that occur prior to its effective date."[867] We do not agree. Order No. 2023 is directed toward future cluster studies, and—in fact—already provides a generous transition period to adapt and address existing backlogs, as a matter of ensuring that the impacts of the deadline and penalty structure are not unduly burdensome or punitive. It is not clear to us how the prospective application of penalties to the third cluster study cycle after a transmission provider's compliance filing becomes effective implicates concerns about retroactivity or the filed rate doctrine.[868] More generally, all transmission providers, including RTOs/ISOs, retain the option to argue on compliance why their particular circumstances warrant variations from Order No. 2023 using the appropriate standard.

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[866] *See* MISO Rehearing Request at 15-16.

[867] *Id.* at 16.

[868] Neither of the cases MISO cites supports the notion that, where the Commission regulates future activity, retroactivity and filed rate concerns may arise simply because pre-existing facts might influence the ease of compliance with the Commission's forward-looking regulation. *See Ark. La. Gas Co. v. Hall*, 453 U.S. 571, 573 (1981) (considering whether the filed rate doctrine "forbids a state court to calculate damages in a breach-of-contract action based on an assumption that had a higher rate been filed, the Commission would have approved it"); *Old Dominion Elec. Coop. v. FERC*, 892 F.3d 1223, 1226 (D.C. Cir. 2018) (affirming Commission decision that it could "waive provisions of the governing tariff retroactively so that [Old Dominion] could recover its costs").

vii. Requests for Clarification

(a) Summary of Requests for Clarification

444. AEP asks the Commission to clarify that the study delay penalties will not incur interest prior to distribution of the penalty funds and that the entity (i.e., transmission provider or transmission owner) conducting the study will have no obligation to pay interest on study delay penalties.[869]

445. Joint RTOs ask the Commission to clarify that Order No. 2023's one-phase cluster study was not intended to require RTOs or others that conduct multiple system impact studies in a multi-phase study process (e.g., MISO, SPP, and PJM) to impose penalties for each delayed system impact study on an individual basis.[870] They argue that an RTO with a multi-phase interconnection process should be allowed to propose on compliance that the penalty for delayed interconnection studies will be assessed based on whether the RTO has complied with the aggregate timeline provided for all of the system impact studies in a cluster.[871] They also seek clarification from the Commission that, in establishing study completion timelines in their tariffs (to the extent such timelines do not already exist), they may propose specific factors they would apply in assessing the

[869] AEP Rehearing Request at 21.

[870] Joint RTOs Rehearing Request at 10.

[871] *Id.* at 10-11 (noting that in its three-phase study process, MISO is required to complete a preliminary, revised, and final system impact study in 65, 75, and 50 calendar days, respectively).

complexity of individual clusters for the purposes of establishing such timelines and the application of penalties for exceeding such timelines.[872]

446. Joint RTOs and PJM seek clarification that all penalties for delayed studies will apply on a per cluster basis, per business day rather than per interconnection customer in the cluster, per business day.[873]

447. Joint RTOs ask the Commission to clarify that the RTO/ISO penalty recovery options provided in Order No. 2023 are not mutually exclusive, nor intended to be an exhaustive list, and that an RTO/ISO may propose using a combination of such options.[874] They also ask the Commission to clarify that, where interconnection customers contributed to the study delay, any resulting penalty may be collected from such interconnection customers under the penalty collection mechanism(s) that an RTO/ISO may adopt pursuant to Order No. 2023 and that an RTO/ISO may propose to limit any penalty distribution to those interconnection customers that have not contributed to a study delay. In addition, Joint RTOs ask the Commission to clarify that, in cases where a transmission-owing member(s) conducted the late study, the tariff mechanisms by which payments flow can be addressed in individual compliance filings where transmission providers can account for their regional processes. Lastly, Joint

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[872] *Id.* at 12.

[873] *Id.*; PJM Rehearing Request at 28.

[874] Joint RTOs Rehearing Request at 13-14.

RTOs ask the Commission to clarify that RTOs/ISOs are not required to collect any penalty prior to concluding the appeals process under section 3.9(3) of the *pro forma* LGIP.

448. NYTOs request clarification that Order No. 2023's prohibition against transmission owners recovering delay penalties in rates does not preclude a transmission owner from recovering such penalty costs that were caused by, and initially assessed to, the RTO/ISO.[875]

449. NYISO asks the Commission to clarify that Order No. 2023 authorizes RTOs/ISOs to recover study penalty costs from consumers without first seeking the Commission's permission, so long as they do so through non-transmission-related charges, such as administrative fees assessed against market participants.[876]

450. NYISO asks the Commission to clarify that the Commission will allow penalty waivers when a transmission provider is not solely responsible for a study delay[877] or in cases where identifying the extent to which different parties are to blame for a late study

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[875] NYTOs Rehearing Request at 29 (arguing that "[t]ransmission providers' investors should not bear such third-party risks and costs, especially when they have no ownership stake in the non-profit RTO/ISO," and that "forcing such a burden breaches basic cost causation principles, is arbitrary and capricious, and is an uncompensated taking").

[876] NYISO Rehearing Request at 26.

[877] *Id.* at 40 (for example, if it were shown that interconnection customers substantially caused a study delay with transmission owners and/or an RTO/ISO playing comparatively smaller roles or other potentially likely scenarios).

would be difficult and time-consuming.[878] NYISO also asks the Commission to clarify that reasonable penalty waiver requests will be compatible with its traditional four-prong waiver analysis.[879]

451. NYISO requests clarification that RTOs/ISOs may include study penalty cost recovery proposals in their individual compliance filings.[880] Specifically, it asks the Commission to clarify that "default structure" penalty cost recovery proposals may be included in Order No. 2023 compliance filings in addition to FPA section 205 filings.[881] NYISO argues that the Commission has traditionally afforded RTOs/ISOs considerable flexibility regarding the scope of compliance filings made in response to major new rules and that it would be unduly discriminatory for the Commission to leave RTOs/ISOs that need stakeholder approval to file tariff revisions with less ability to recover study penalty costs than those that do not.[882]

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[878] *Id.* at 41 (arguing that it would be better for all parties and the Commission to avoid complex contested appeal proceedings).

[879] *Id.* (for example, if a study delay impacts numerous interconnection customers, that will not mean that a waiver request would be denied because it is "not limited in scope").

[880] *Id.* at 41-42.

[881] *Id.* at 42 (explaining that, because it must obtain super majority stakeholder approval to submit tariff revisions under FPA section 205, it and other similarly situated RTOs/ISOs would be prevented from filing "default structure" recovery mechanisms if a minority of their stakeholders opposed them).

[882] *Id.* at 43.

(b) Determination

452. We grant AEP's request for clarification that study delay penalties will not incur interest prior to distribution of the penalty funds and that the entity conducting the study (i.e., transmission provider or transmission owner) will have no obligation to pay interest on study delay penalties. Assessing interest during the pendency of an appeal could be viewed as penalizing the transmission provider for making the appeal, particularly to the extent that the transmission provider does not control the timeline for resolution of the appeal.

453. We deny requests for clarification of how the penalty process would apply to RTOs/ISOs with multi-phase interconnection procedures that include multiple sequential cluster studies. Order No. 2023 did not contemplate such sequential phased cluster study procedures: thus, any such procedures and attendant penalty processes are outside the scope of the rule. However, the Commission recognized that many transmission providers have adopted or are in the process of adopting similar reforms to those adopted in Order No. 2023 and noted that it did not intend to disrupt these ongoing transition processes.[883] On compliance, transmission providers can propose deviations from the requirements adopted in Order No. 2023 and demonstrate how those deviations meet the relevant standard.[884]

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[883] Order No. 2023, 184 FERC ¶ 61,054 at P 1765.

[884] *Id.* PP 1764-1765 (citing Order No. 2003, 104 FERC ¶ 61,103 at P 825; Order No. 2006, 111 FERC ¶ 61,220 at PP 546-547; Order No. 845, 163 FERC ¶ 61,043 at P 43

454. We grant requests for clarification that all penalties for delayed studies will apply on a per-study basis, per business day that the study is delayed past the tariff-specific deadline, rather than per interconnection customer. As noted in Order No. 2023, delays of cluster studies beyond the tariff-specified deadline will incur a penalty of $1,000 per business day; delays of cluster restudies beyond the tariff-specified deadline will incur a penalty of $2,000 per business day; delays of affected system studies beyond the tariff-specified deadline will incur a penalty of $2,000 per business day; and delays of facilities studies beyond the tariff-specified deadline will incur a penalty of $2,500 per business day.[885]

455. We grant Joint RTOs' request for clarification regarding the mutual exclusivity of RTO/ISO penalty recovery options and reiterate that Order No. 2023 did not require adoption of any specific RTO/ISO penalty recovery mechanism. Order No. 2023 recognized that RTOs/ISOs have several options for collecting study delay penalties, such as submitting FPA section 205 filings to seek recovery for study delay penalties from transmission owners contributing to study delays or proposing to either establish a tariff mechanism for assigning costs generally or for assigning costs for specific study

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(explaining that a transmission provider that is not an RTO/ISO that seeks a variation from the requirements of the final rule must present its justification for the variation as consistent with or superior to the *pro forma* LGIA or *pro forma* LGIP); Order No. 2003, 104 FERC ¶ 61,103 at P 826 ("[w]ith respect to an RTO or ISO . . . we will allow it to seek 'independent entity variations' from the Final Rule . . .)).

[885] Order No. 2023, 184 FERC ¶ 61,054 at P 973.

delay penalties.[886] These options were not intended to be mutually exclusive or exhaustive; rather, the Commission recognized RTOs/ISOs' flexibility to propose penalty recovery mechanisms that work for their regions.

456. We deny Joint RTOs' request to clarify that, where interconnection customers contribute to a study delay, any resulting penalty may be collected from such interconnection customers under the penalty collection mechanisms that an RTO/ISO may adopt pursuant to Order No. 2023. Indeed, the Commission explicitly stated in Order No. 2023 that it "decline[d] to allow any transmission provider to recover study delay penalties from interconnection customers to the extent the interconnection customers cause delays."[887] We note, however, that to the extent that study delays result from an interconnection customer's actions, transmission providers may record the length of those delays and report that information in any appeal of study delay penalties filed with the Commission.[888] Further, in the event that an interconnection request is incomplete or an interconnection customer misses a deadline, those interconnection requests are subject to the withdrawal provisions of *pro forma* LGIP section 3.7.

457. We deny Joint RTOs' request to clarify that an RTO/ISO may propose to limit any penalty distribution to those interconnection customers that have not contributed to a

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[886] *Id.* P 998.

[887] *Id.* P 993.

[888] *See id.* P 1019.

study delay. We note that we agree with the principle that interconnection customers who contribute to study delays should not benefit from penalty payments the same as other interconnection customers who were affected by, but did not contribute to, the delayed study. However, the appeals process established by Order No. 2023 provides a strong safeguard against that scenario. Specifically, transmission providers will be able to appeal any penalties to the Commission and show that there is good cause to grant relief from such penalties. As Order No. 2023 noted, to the extent that study delays result from an interconnection customer's actions, transmission providers may record the length of those delays and report that information in any appeal of study delay penalties filed with the Commission.[889] Thus, if the record shows that a study delay is caused solely by the actions or inactions of interconnection customers, the Commission is likely to grant relief from that penalty, meaning that there will be no penalty to distribute to interconnection customers.

458. We recognize that a study delay might be caused only in part by an interconnection customer and in part by the actions of the transmission provider, in which case the transmission provider could incur a penalty that would then be distributed to all interconnection customers affected by the delay. Even so, we provide two reasons why the at-fault interconnection customer in that situation would likely still not benefit from penalty payments. First, interconnection customers that contribute to study delays, for

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[889] *Id.*

example because they fail to timely submit information needed to commence a study, are not likely to remain in the queue past the missed study deadline. This is because all interconnection customers have strict deadlines during the study process and, as Order No. 2023 noted, if an interconnection customer fails to adhere to all requirements in the *pro forma* LGIP (except in the case of disputes), the transmission provider may deem the interconnection customer's interconnection request to be withdrawn pursuant to section 3.7 of the *pro forma* LGIP, in which case they would be ineligible to receive study delay penalty payments. Second, in the unlikely scenario that interconnection customers that contribute to study delays remain in the queue past the missed study deadline, and a study penalty is incurred by the transmission provider, the transmission provider would be able to provide, in an appeal to the Commission, facts sufficient to assess the length of the delay caused by the interconnection customers, because any missed LGIP deadlines and subsequent delays should be well-documented. Thus, the Commission could, for example, reduce the penalty by the length of the delay (in business days) that is attributable to the interconnection customers. In this case, the penalty distributed to all interconnection customers would exclude the number of business days the study was delayed due to the actions of the at-fault interconnection customers and would only be calculated based on the number of business days the study was delayed due to the actions of the transmission provider. In this fashion, the interconnection customers that contributed to the delay would not benefit from their contributions to the study delay.

459. For these reasons, we believe that the burden of establishing such a penalty distribution limitation would outweigh the benefit. This process would create additional

litigation around penalties beyond the established appeals process, which would take up more of the parties' and Commission's resources. As discussed above, given the low likelihood that interconnection customers who contribute to study delays would be eligible for distribution of the penalty amount assessed for such delays, we do not find that the additional administrative burden is warranted.

460. We deny Joint RTOs' request for clarification that, in cases where the transmission-owning member(s) conducted the late study, the mechanisms by which payments flow can be addressed in individual compliance filings where transmission providers can account for their regional tariff processes. In Order No. 2023, the Commission adopted 18 CFR § 35.28(f)(1)(ii) to specify that, for RTOs/ISOs in which the transmission-owning members perform certain interconnection studies, the study delay penalties under the new *pro forma* LGIP will be incurred directly by the transmission-owning member(s) that conducted the late study, thereby mooting the issue of how RTOs/ISOs recover those specific penalties. RTOs/ISOs will thus not be required to make any filings establishing how late study penalty payments flow from at-fault transmission owners. However, we note that RTOs/ISOs may explain specific circumstances on compliance and justify any deviations under the independent entity variation standard.

461. We grant Joint RTOs' request for clarification that transmission providers are not required to collect or earmark any late study penalty prior to concluding the appeals process under section 3.9(3) of the *pro forma* LGIP. We agree that this is not required because collecting or earmarking study penalties before the appeals process runs its

course would be administratively burdensome and could entail unnecessary refund processes.

462. In response to NYISO's request for clarification that the Commission will entertain requests for appeal of a penalty in various situations, we clarify that the Commission did not limit the evidence that a transmission provider might present in its appeal. The Commission will evaluate each appeal on a case-by-case basis and determine whether good cause has been shown to grant relief from any applicable penalties.

463. We deny NYISO's request for clarification that reasonable penalty waiver requests will be compatible with the Commission's traditional four-prong waiver analysis. The four-prong waiver analysis will not be the relevant standard used in the penalty appeals process; rather, as the Commission made clear in Order No. 2023, the Commission will evaluate whether good cause exists to grant relief from the study delay penalty and will issue an order granting or denying relief.[890] We continue to find that the good cause standard provides an adequate framework through which the Commission can evaluate whether it is appropriate to grant relief from any applicable penalties.

464. We deny NYISO's request to clarify that "default structure" penalty cost recovery proposals may be included in Order No. 2023 compliance filings in addition to FPA section 205 filings. Order No. 2023 declined to adopt the NOPR proposal to require

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[890] *Id.* PP 987, 989.

RTOs/ISOs to submit requests to recover the costs of specific study delay penalties; instead, Order No. 2023 stated that RTOs/ISOs may make such filings under FPA section 205 in the future if they choose.[891] We find it inappropriate to invite such proposals on compliance because the Commission did not make an FPA section 206 finding that any such default penalty structure would be just, reasonable, and not unduly discriminatory or preferential. In response to NYISO's concerns about obtaining majority stakeholder approval for FPA section 205 filings, we note that, to the extent it is concerned that the lack of a mechanism for the transmission provider to recover the costs of delay penalties renders its tariff unjust and unreasonable, NYISO has the opportunity to file an FPA section 206 complaint.

465. We deny NYTOs' request to clarify that Order No. 2023's prohibition against transmission providers recovering delay penalties in rates does not preclude a transmission owner from recovering such penalty costs that were caused by, and initially assessed to, the RTO/ISO. NYTOs are concerned that RTOs/ISOs will pass penalties to transmission owner members when those providers are not responsible for a delay. We find this concern premature because the Commission does not yet have before it any FPA section 205 proposals by an RTO/ISO to recover the costs of study delay penalties. We continue to find that concerns about any RTO/ISO proposal to recover the costs of study

[891] *Id.* P 994.

delay penalties are best addressed on a case-by-case basis in the relevant FPA section 205 proceedings.[892]

2. Affected Systems

a. Affected Systems Study Process

i. Order No. 2023 Requirements

466. In Order No. 2023, the Commission adopted an affected system study process and added several related definitions to the *pro forma* LGIP.[893] The Commission found that a detailed affected system study process in the *pro forma* LGIP would: (1) prevent the use of ad hoc approaches that may give rise to interconnection customers being treated in an unjust, unreasonable, and unduly discriminatory or preferential manner; (2) provide interconnection customers greater certainty regarding expectations throughout the interconnection process, including greater cost certainty, which will lead to fewer late-stage withdrawals and fewer delays; (3) ensure that the affected system study process moves along expediently, providing clarity, cost certainty, and increased transparency throughout the study process, which will minimize opportunities for undue discrimination, through firm affected system study deadlines; and (4) ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner.

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[892] *Id.* P 996.

[893] *Id.* P 1110.

467. The Commission adopted several definitions in section 1 of the *pro forma* LGIP related to the affected system reforms, specifically, "affected system facilities construction agreement," "affected system interconnection customer," "affected system network upgrades," "affected system queue position," "affected system study," "affected system study agreement," "affected system study report," "multiparty affected system facilities construction agreement," and "multiparty affected system study agreement."[894]

468. The Commission adopted section 3.6.1 (Initial Notification) of the *pro forma* LGIP, which requires the transmission provider to notify the affected system operator within 10 business days of the first instance of an identified potential affected system impact, which may occur at the completion of either the cluster study or the cluster restudy.[895]

469. The Commission next adopted several requirements for the transmission provider when it is acting as the affected system transmission provider (i.e., when the transmission provider is studying the impacts on its own transmission system of proposed interconnections to other transmission providers' transmission systems) in *pro forma* LGIP section 9 (Affected System Study).[896] First, the Commission adopted section 9.2

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[894] *Id.* P 1112; *see pro forma* LGIP section 1.

[895] Order No. 2023 184 FERC ¶ 61,054 at P 1119; *see pro forma* LGIP section 3.6.1.

[896] Order No. 2023, 184 FERC ¶ 61,054 at P 1113; *see pro forma* LGIP section 9.1.

(Response to Initial Notification) of the *pro forma* LGIP, which requires the affected system transmission provider to respond to notification of a potential affected system impact in writing within 20 business days indicating whether it intends to conduct an affected system study.[897] Section 9.2 also requires that, within 15 business days of the affected system transmission provider's affirmative response of its intent to conduct an affected system study, the affected system transmission provider must share a non-binding good faith estimate of the cost and schedule to complete the affected system study.

470. The Commission next adopted section 9.3 (Affected System Queue Position) of the *pro forma* LGIP.[898] Under section 9.3, the interconnection requests of affected system interconnection customers that have executed an affected system study agreement will be higher-queued than the interconnection requests of those host system interconnection customers that have not yet received their cluster study results, and lower-queued than those interconnection customers that have already received their cluster study results. All affected system interconnection requests studied within the same affected system cluster will be equally queued.

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[897] Order No. 2023, 184 FERC ¶ 61,054 at P 1120; *see pro forma* LGIP section 9.2.

[898] Order No. 2023, 184 FERC ¶ 61,054 at P 1138; *see pro forma* LGIP section 9.3.

471. The Commission next adopted section 9.4 (Affected System Study Agreement/Multiparty Affected System Study Agreement) of the *pro forma* LGIP to require that the transmission provider tender the affected system study agreement within 10 business days of sharing the schedule for the study with the affected system interconnection customers.[899] Section 9.4 also requires the affected system interconnection customer to compensate the affected system transmission provider for the actual costs of the affected system study, and the difference between the affected system study deposit and actual cost of the affected system study will be detailed in an invoice and paid by or refunded to the affected system interconnection customer within 30 calendar days of the receipt of such invoice.[900] An affected system interconnection customer's failure to pay the difference between these amounts will result in loss of that affected system interconnection customer's affected system queue position. Section 9.4 also requires that the affected system transmission provider notify the host transmission provider of the affected system interconnection customer's breach of its obligations under this section, should such breach occur.[901]

472. The Commission next adopted section 9.5 (Execution of Affected System Study Agreement/Multiparty Affected System Study Agreement) of the *pro forma* LGIP, which

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[899] Order No. 2023, 184 FERC ¶ 61,054 at P 1154; *see pro forma* LGIP section 9.4.

[900] Order No. 2023, 184 FERC ¶ 61,054 at P 1157.

[901] *Id.* P 1159.

provides the affected system interconnection customer with 10 business days from the date of receipt of the affected system study agreement to execute and deliver it to the affected system transmission provider.[902] Section 9.5 also provides that, if the affected system interconnection customer does not provide all required technical data when it delivers the affected system study agreement, the affected system transmission provider shall notify the affected system interconnection customer of the deficiency within five business days of the receipt of the affected system study agreement, and the affected system interconnection customer has 10 business days to cure the deficiency after receipt of such notice (provided that the deficiency does not include failure to deliver the executed affected system study agreement or deposit).

473. The Commission next adopted section 9.6 (Scope of Affected System Study) of the *pro forma* LGIP, which requires the affected system study to consider the base case as well as all higher-queued generating facilities on the affected system transmission provider's transmission system and to consist of a power flow, stability, and short circuit analysis.[903] Section 9.6 also requires the affected system study to provide a list of affected system network upgrades that are required because of the affected system interconnection customer's proposed interconnection, a non-binding good faith estimate of cost responsibility, and a non-binding good faith estimated time to construct.

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[902] *Id.* P 1158; *see pro forma* LGIP section 9.5.

[903] Order No. 2023, 184 FERC ¶ 61,054 at P 1160; *see pro forma* LGIP section 9.6.

474. The Commission next adopted section 9.7 of the *pro forma* LGIP (Affected System Study Procedures), which requires clustering of affected system interconnection customers for study purposes where multiple interconnection requests that are part of a single cluster in the host system's cluster study process cause the need for an affected system study.[904] Section 9.7 also requires the affected system transmission provider to complete the affected system study and provide the affected system interconnection customer with affected system study results within 150 calendar days after receipt of the affected system study agreement. Section 9.7 also requires the affected system transmission provider to provide the affected system study report to the host transmission provider at the same time it provides the report to the affected system interconnection customer. The affected system transmission provider must notify the affected system interconnection customer that an affected system study will be late.[905] Lastly, *pro forma* LGIP section 9.7 requires affected system transmission providers to study all affected system interconnection requests using ERIS modeling standards.[906]

475. The Commission added a new section 11.2.1 to the *pro forma* LGIP (Delay in LGIA Execution, or Filing Unexecuted, to Await Affected System Study Report).[907]

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[904] Order No. 2023, 184 FERC ¶ 61,054 at P 1133; *see pro forma* LGIP section 9.7.

[905] Order No. 2023, 184 FERC ¶ 61,054 at P 1135.

[906] *Id.* P 1276.

[907] *Id.* P 1123; *see pro forma* LGIP section 11.2.1.

Under this section, if the interconnection customer does not receive its affected system study results before the deadline in its host system for LGIA execution, or the deadline to request that the LGIA be filed unexecuted, the host transmission provider must, at the interconnection customer's request, delay the deadline for the interconnection customer to finalize its LGIA.[908] The interconnection customer will have 30 calendar days after receipt of the affected system study report to execute the LGIA, or request that the LGIA be filed unexecuted. Additionally, if the interconnection customer prefers to proceed to the execution of its LGIA, or request that the LGIA be filed unexecuted, before it has received its affected system study results, it may notify the host transmission provider of its intent to proceed with the execution of the LGIA, or request that the LGIA be filed unexecuted.[909] If the host transmission provider determines that further delay to the LGIA execution date would cause a material impact on the cost or timing of an equal- or lower-queued interconnection customer, the transmission provider must notify the relevant interconnection customer of such impact and establish that the new deadline is 30 calendar days after such notice is provided.

476. The Commission adopted section 9.8 of the *pro forma* LGIP (Meeting with Transmission Provider), which requires the affected system transmission provider and the affected system interconnection customer to meet within 10 business days of the affected

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[908] Any interconnection customer that is not awaiting the results of an affected system study must proceed under the timelines set forth in *pro forma* LGIP section 11.1.

[909] Order No. 2023, 184 FERC ¶ 61,054 at P 1124.

system transmission provider tendering the affected system study report to the affected system interconnection customer.[910]

477. The Commission adopted section 9.9 of the *pro forma* LGIP (Affected System Cost Allocation), which requires the allocation of affected system network upgrade costs using a proportional impact method in accordance with *pro forma* LGIP section 4.2.1(1)(b).[911]

478. The Commission adopted section 9.10 of the *pro forma* LGIP (Tender of Affected System Facilities Construction Agreement/Multiparty Affected System Facilities Construction Agreement).[912] Under section 9.10, an affected system transmission provider must tender an affected system facilities construction agreement to the affected system interconnection customer within 30 calendar days of providing the affected system study report. The affected system transmission provider must provide 10 business days after receipt of the affected system facilities construction agreement for the affected system interconnection customer to execute the agreement or have the affected system transmission provider file it unexecuted with the Commission.

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[910] *Id.* P 1169; *see pro forma* LGIP section 9.8.

[911] Order No. 2023, 184 FERC ¶ 61,054 at P 1149; *see pro forma* LGIP section 9.9.

[912] Order No. 2023, 184 FERC ¶ 61,054 at P 1165; *see pro forma* LGIP section 9.10.

479. The Commission adopted section 9.11 of the *pro forma* LGIP (Restudy) to include a maximum 60-calendar day restudy period for any affected system restudies.[913] Section 9.11 also adopts a 30-calendar day notification requirement for the affected system transmission provider to notify the affected system interconnection customer of the need for affected system restudy upon discovery of such need.[914]

ii. Requests for Rehearing and Clarification

480. Clean Energy Associations and Invenergy ask the Commission to clarify that there are deadlines for determining that an affected system study will be conducted.[915] Clean Energy Associations and Invenergy note that Order No. 2023 requires transmission providers to notify affected system transmission providers of potential affected system impacts at the completion of the cluster study or cluster restudy, and affected system transmission providers have 20 business days to determine whether or not to conduct an affect system study. However, Clean Energy Associations and Invenergy state that it is unclear whether an affected system may decline to conduct an affected system study after the initial notification but later elect to conduct an affected system study after the cluster restudy, even if no new potential affected system impact is found. Clean Energy

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[913] Order No. 2023, 184 FERC ¶ 61,054 at P 1170; *see pro forma* LGIP section 9.11.

[914] Order No. 2023, 184 FERC ¶ 61,054 at P 1171.

[915] Clean Energy Associations Rehearing Request at 78-79; Invenergy Rehearing Request at 18-19.

Associations and Invenergy argue that affected system transmission providers may have an incentive to perform affected system studies as late as possible to: (1) give priority to queue requests on their own system; (2) avoid the volume of studies created by restudies; or (3) reduce the amount of necessary studies to reduce the risk of study delay penalties. Clean Energy Associations and Invenergy explain that interconnection customers need to know as soon as possible if affected system studies will be performed and what the results of those studies are. Clean Energy Associations and Invenergy argue that, while it is possible that new information about an affected system impact could show up when the host transmission provider conducts its restudy (which would then require the affected system to conduct its own study), the affected system should not be permitted to wait until the restudy stage to make its determination to perform studies unless new information has been identified in the restudy. Clean Energy Associations and Invenergy therefore request clarification that, if an affected system declines to perform an affected system study after the cluster study and host transmission provider's notification of an impact on the affected system, the affected system is not eligible to run a study after the cluster restudy unless the cluster restudy results in information that was not identified in the initial notification.

481. Clean Energy Associations and Invenergy agree with Order No. 2023's directive that, if the interconnection customer does not have the results of the affected system study prior to finalizing the LGIA, the interconnection customer may request that the host

transmission provider delay finalizing the LGIA.[916] However, Clean Energy Associations and Invenergy argue that a host transmission provider should not be able to reject that request if it determines that delaying the LGIA pending completion of the affected system study would materially impact the cost or timing of equal or lower-queued interconnection customers. Clean Energy Associations and Invenergy explain that, when an interconnection customer executes its LGIA, it should be able to rely on those costs and other agreement provisions without significant changes, and that allowing the host transmission provider to reject requests for delaying LGIA execution is directly at odds with the Commission's goal of ensuring that interconnection customers have adequate time to evaluate their costs prior to committing to the LGIA. When the affected system costs are not known, Clean Energy Associations and Invenergy explain, it exacerbates the cost uncertainty and late-stage upgrades that Order No. 2023 sought to ameliorate.[917] Further, they argue, allowing the host transmission provider alone to determine when the material threshold is met creates potential for undue discrimination. Therefore, Clean Energy Associations and Invenergy request that the Commission strike the last sentence in revised *pro forma* LGIP, section 11.2.1.

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[916] Clean Energy Associations Rehearing Request at 79; Invenergy Rehearing Request at 4 (both citing Order No. 2023, 184 FERC ¶ 61,054 at PP 1124-1125).

[917] Clean Energy Associations Rehearing Request at 80; Invenergy Rehearing Request at 5.

482. Clean Energy Associations and Invenergy also seek clarification of *pro forma* LGIP section 11.2.1, which states that the interconnection customer is not required to post security under the LGIA and fund network upgrades if the deadline for LGIA execution, or to request that the LGIA be filed unexecuted, is delayed.[918] Clean Energy Associations state that the ability to not post security or fund network upgrades should also apply when the host transmission provider determines a material impact from delay and requires that the interconnection customer move forward with LGIA execution. If the Commission does not grant this request, Clean Energy Associations and Invenergy contend that the Commission should clarify that, when an interconnection customer is not allowed to delay LGIA execution under the material impact standard, the interconnection customer will receive a refund of the deposit upon deciding to not move forward with the interconnection after receiving the affected system studies.

483. Duke Southeast Utilities ask for clarification of the requirement for a host transmission provider to notify an affected system transmission provider within 10 days of the completion of a cluster study or restudy of potential affected system impacts identified in the study.[919] Specifically, Duke Southeast Utilities ask the Commission to clarify the meaning of the "completion of" a cluster study or restudy, referring to a number of possible interpretations, including: (1) the date stated on the study report; (2)

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[918] Clean Energy Associations Rehearing Request at 80-81; Invenergy Rehearing Request at 5-6.

[919] Duke Southeast Utilities Rehearing Request at 2-4.

the date the report is provided to interconnection customers; (3) the date the report is posted to OASIS; and (4) the date of the cluster study report meeting. Duke Southeast Utilities assert that a lack of clarity will lead to lack of uniformity in how transmission providers calculate their 10-day deadline. Further, Duke Southeast Utilities note that, because affected system transmission providers have 20 days to decide whether to conduct an affected system study, and host transmission providers have 30 days after the cluster study report meeting to decide whether to conduct a cluster restudy, there is potential for an affected system transmission provider to have begun conducting an affected system study before being notified that the host transmission provider will conduct a cluster restudy. Duke Southeast Utilities request clarification on whether an affected system transmission provider may terminate an affected system study once it learns of the host transmission provider's restudy, or whether it must continue with the affected system study. Duke Southeast Utilities explain that continuing an affected system study in this case would cause affected system interconnection customers to pay for an unnecessary study.

484. Clean Energy Associations and Invenergy ask for rehearing or clarification with respect to the exclusion of affected system network upgrade costs from the penalty-free withdrawal calculation in *pro forma* LGIP section 3.7.1, which allows for penalty-free withdrawal if the withdrawal follows significant, unanticipated increases in network

upgrade cost estimates.[920] Clean Energy Associations request rehearing and argue that failing to include affected system network upgrade costs in withdrawal penalty exemption calculations will discourage generating facilities that experience significant cost increases from withdrawing from the interconnection process in a timely way.[921] Clean Energy Associations state that an interconnection customer will be incentivized to remain in the queue despite significant cost increases from the transmission provider and affected system transmission provider in the hopes that either other interconnection customers withdraw, or other conditions change such that the generating facility faces reduced network upgrade and affected system network upgrade costs and becomes financially viable again. Clean Energy Associations further state that it is unreasonable to penalize an interconnection customer for proceeding when its costs increase dramatically due to affected system interconnection study results. Clean Energy Associations state that affected system study results are not known at the conclusion of the cluster study and are also subject to errors or significant inaccuracies. Invenergy argues that the differing treatment in withdrawal penalties for host transmission system studies versus affected system studies is arbitrary and capricious and not a result of reasoned decision-making.[922]

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[920] Clean Energy Associations Rehearing Request at 34; Invenergy Rehearing Request at 7.

[921] Clean Energy Associations Rehearing Request at 34-35.

[922] Invenergy Rehearing Request at 7.

485. Clean Energy Associations and Invenergy further argue that the Commission erred by failing to set any penalty-free withdrawal threshold based upon costs identified in an affected system study, which would result in essentially uncapped liability for interconnection customers.[923]

486. Clean Energy Associations and Invenergy disagree with the Commission's statement that the use of ERIS modeling standard to conduct affected system studies should reduce the number and total cost of affected system network upgrades assigned to affected system interconnection customers.[924] Clean Energy Associations argue that the ERIS modeling standard in no way guarantees a small number of assigned affected system network upgrades or total assigned network upgrade costs to any one affected system interconnection customer, and that significant impacts can occur in both large and small transmission systems.[925] Invenergy similarly argues that the ERIS modeling standard does not guarantee fewer assigned costs, and that even if using ERIS modeling decreases the number of interconnection customers receiving significant affected system upgrade costs, the lack of penalty-free withdrawal for when affected system network upgrade costs remain significant is unjust and unreasonable.[926] Invenergy states that the

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[923] *Id.* at 6; Clean Energy Associations Rehearing Request at 31.

[924] Clean Energy Associations Rehearing Request at 33; Invenergy Rehearing Request at 7-8 (both citing Order No. 2023, 184 FERC ¶ 61,054 at P 1151).

[925] Clean Energy Associations Rehearing Request at 33.

[926] Invenergy Rehearing Request at 7-8.

Commission's reasoning does not ameliorate the differing treatment of interconnection customers with significant network upgrades and those with significant affected system network upgrades merely because significant affected system upgrade costs might occur less often.

487. Clean Energy Associations request that the Commission match the penalty-free withdrawal cost increase thresholds for both the host and affected systems at the facilities study phase at 50%.[927] In the alternative, Clean Energy Associations argue that the Commission should allow penalty-free withdrawal for interconnection customers based upon the same 100% cost increase on the affected system as on the host transmission system. Invenergy requests that the Commission modify *pro forma* LGIP section 3.7.1 to include that an interconnection customer may withdraw penalty free after receiving the affected system study and the affected system network upgrade costs identified in the report have increased the interconnection customer's costs by more than 25% compared to the costs assigned by the host system.[928] Invenergy asserts that such modification is consistent with MISO's withdrawal process, which progressively increases when interconnection customers may withdraw penalty free, including for affected system network upgrade costs.[929]

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[927] Clean Energy Associations Rehearing Request at 36.

[928] Invenergy Rehearing Request at 9.

[929] *Id.* at 9-10 (citing MISO, Open Access Transmission, Energy and Operating Markets Tariff, attach. X (Generator Interconnection Procedures (GIP)) (161.0.0), § 7.6.2.4).

488. SPP states that the Commission's decision to require affected system operators to study all interconnection requests on neighboring systems using the ERIS modeling standard is unsupported.[930] SPP argues that limiting affected system transmission providers to use of the ERIS standard will result in significant equity issues when certain generating facilities that are deemed firm by one transmission provider will not be required to mitigate issues on another transmission provider's system unless they impact a constraint at a level significantly higher than internal generating facilities requesting firm service. SPP asserts that Order No. 2023 ignores this issue by claiming to ensure that all affected system interconnection customers are studied similarly, while the root issue of the inequity (i.e., the point at which deliverability is determined) remains unaddressed. SPP states that the Commission's rationalization, that studying affected system impacts using ERIS lowers affected system network upgrade costs and makes requests less likely to withdraw at a late stage, conflicts with the Commission's long-standing policy that interconnection customers should be responsible for the costs of all network upgrades that would not be required "but for" their interconnection.

489. SPP contends that the Commission's reliance on MISO's use of only ERIS in affected system studies fails to recognize that SPP assesses deliverability through the transmission service process.[931] As such, SPP asserts that MISO has the opportunity to

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[930] SPP Rehearing Request at 12-14.

[931] *Id.* at 14.

assess the impacts on its system of firm deliverability granted to generating facilities on the SPP system through transmission service study coordination. SPP states that it does not get the same opportunity as MISO, who determines and grants deliverability on its own system through its awarding of NRIS during the interconnection process without a subsequent request for transmission service. SPP concludes that the Commission's failure to recognize this problem renders Order No. 2023 both discriminatory toward interconnection customers in RTOs/ISOs like SPP and arbitrary and capricious.

490. Similarly, PJM asserts that, because it studies affected system interconnection customers to ensure deliverability anywhere on PJM's transmission system, studying affected systems interconnection customers based on a lesser standard than that applied to directly connected interconnection customers would be unduly discriminatory and inconsistent with how PJM plans its transmission system.[932] PJM requests clarification that the requirement for all affected system studies to be performed using ERIS will not apply to affected system studies that PJM performs under the interconnection reforms accepted by the Commission in November 2022.

491. SPP notes that Order No. 2023 directly contradicts recent Commission precedent holding that use of NRIS modeling standards in affected system studies is just and reasonable where the interconnection customer requested NRIS-level interconnection

[932] PJM Rehearing Request at 24.

service on the host transmission system.[933] SPP asserts that, by failing to acknowledge its prior holdings and relying on a blanket unsupported assertion that any significant impact would generally be captured by an ERIS study, the Commission's determination in Order No. 2023 constitutes an arbitrary and capricious departure from prior precedent.

iii. Determination

492. In response to Clean Energy Associations' and Invenergy's requests for clarification that there are deadlines for determining that an affected system study will be conducted, we clarify that there are such deadlines. Pursuant to *pro forma* LGIP section 9.2, the affected system transmission provider is required to respond in writing within 20 business days of receipt of the initial notification from the host transmission provider that interconnection requests may impact the affected system transmission provider's transmission system. From the point of written notification of the intention to conduct the affected system study, the affected system transmission provider then has 15 business days to share a non-binding good faith estimate of the cost and schedule to complete the affected system study.

493. We reject Clean Energy Associations' and Invenergy's requests for clarification that, if an affected system transmission provider declines to perform an affected system study after the cluster study and the host transmission provider's notification of an impact

[933] SPP Rehearing Request at 16-17 (citing *Tenaska Clear Creek Wind, LLC v. Sw. Power Pool, Inc.*, 180 FERC ¶ 61,160 at P 62; *EDF Renewable Energy Inc. v. Midcontinent Indep. Sys. Operator, Inc.*, 168 FERC ¶ 61,173, at P 86 (2019)).

on the affected system, the affected system transmission provider is ineligible to run a study after the cluster restudy unless the cluster restudy results in information that was not identified in the initial notification. We understand Clean Energy Associations' and Invenergy's concern to be that affected system transmission providers may have an incentive to perform affected system studies as late as possible, and therefore might decline to conduct an affected system study after the initial notification but later elect to conduct an affected system study, even if no new potential affected system impact is found. We expect affected system transmission providers to adhere to the affected system study process timelines prescribed in Order No. 2023. We therefore expect that an affected system transmission provider will respond within 20 business days following notification, pursuant to *pro forma* LGIP section 9.2, if it intends to conduct an affected system study based on the initial host transmission provider notification, and there is no need for the further clarification requested.

494. We are not persuaded by Clean Energy Associations' request to strike the last sentence of *pro forma* LGIP section 11.2.1, which allows a transmission provider to reject an interconnection customer's request for extension of the deadline to execute its LGIA (or request that the LGIA be filed unexecuted) if the transmission provider determines that such delay would cause a material impact on the cost or timing of an equal- or lower-queued interconnection customer. We also disagree with Invenergy's assertion that the material exception language in *pro forma* LGIP section 11.2.1 makes Order No. 2023 arbitrary and capricious and not the result of reasoned decision-making. We find that allowing a transmission provider to determine what constitutes a material

impact on interconnection customers in a single cluster due to another interconnection customer's delay in LGIA execution appropriately balances the benefits of delay due to one interconnection customer's network upgrade cost certainty with the potential burdens on other interconnection customers in that cluster as a result of such delay. Allowing the transmission provider discretion in determining what constitutes a material impact provides a necessary degree of flexibility for each transmission provider. We disagree with Clean Energy Associations that this provision undermines the goal of LGIA cost certainty for interconnection customers because there is no requirement for affected system network upgrade costs to be known at the time of LGIA execution: the costs included in the LGIA are estimates and always subject to true-up once final costs are known, pursuant to *pro forma* LGIA article 12.2 (Final Invoice). The goal is a better estimate of costs at the time of LGIA execution, and the material impact language in *pro forma* LGIP section 11.2.1 provides a check to ensure a balance between multiple interconnection customers' competing needs for certainty.

495. We reject Clean Energy Associations' and Invenergy's requests for clarification that the interconnection customer should be exempt from the requirement to post security or fund network upgrades when the host transmission provider determines a material impact from delay and requires that the interconnection customer moves forward with LGIA execution. We further disagree with Clean Energy Associations' assertion that we should clarify that when an interconnection customer is not allowed to delay LGIA execution under the material impact standard the interconnection customer will receive a refund of the deposit upon deciding to not move forward with the interconnection after

receiving the affected system studies. Once an interconnection customer executes an LGIA, or requests that it be filed unexecuted, it must fulfill its obligations under the LGIA, which include the requirements to provide financial security and fund assigned network upgrades.[934] Similarly, an interconnection customer that has finalized its LGIA is not entitled to a refund of its deposit.[935] We note that the transmission provider may only require an interconnection customer to finalize its LGIA, despite waiting for its affected system study report, because it materially impacts other interconnection customers. Allowing an interconnection customer to avoid its financial responsibilities under a finalized LGIA or to have its deposit refunded upon withdrawal after it has finalized its LGIA would nullify the purpose of requiring the interconnection customer to finalize its LGIA—to provide greater certainty to other interconnection customers that would be materially impacted by the interconnection request's delay or withdrawal. To the contrary, allowing an interconnection customer to evade these financial risks increases the likelihood it proceeds to finalize its LGIA although its proposed generating facility may no longer be commercially viable. The other materially impacted interconnection customers, who, for example, may share network upgrade costs with the delayed interconnection customer, would face greater risk of cost increases or timing

[934] *See pro forma* LGIA arts. 11.5, 12.1.

[935] *See pro forma* LGIP section 11.3.

delays should the delayed interconnection request later be withdrawn, even as they are required to finalize their LGIAs.[936]

496. In response to Duke Southeast Utilities' request for clarification of the requirement for a host transmission provider to notify an affected system transmission provider within 10 days of the completion of a cluster study or restudy of potential affected system impacts identified in the study, we clarify that the meaning of the "completion of" a cluster study or restudy is the date the cluster study report or cluster restudy report is provided to interconnection customers.

497. In response to Duke Southeast Utilities' request for clarification regarding whether an affected system transmission provider may terminate an affected system study once it learns of the host transmission provider's restudy or whether it must continue with the affected system study, we clarify that an affected system transmission provider may pause an affected system study that is planned or in progress if the host transmission provider decides to conduct a cluster restudy. We also clarify that, if a host transmission provider decides to conduct a cluster restudy, then the affected system transmission provider may delay the affected system study until after the completion of the cluster restudy, following which the host transmission provider will notify the affected system transmission provider that the cluster restudy is complete and of any possible affected system impacts. The cluster restudy may result in further withdrawals on the host

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[936] *See infra* P 502.

transmission system, which in turn, would impact the affected system study results, possibly resulting in an affected system restudy. Allowing an affected system transmission provider to delay the affected system study in the event that the host transmission provider is conducting a cluster restudy will prevent unnecessary studies, and potentially cascading restudies, and the resultant costs to interconnection customers, in the affected system transmission provider's queue.

498. To ensure that the affected system transmission provider is timely informed of the host transmission provider's decision to conduct a cluster restudy, we add to *pro forma* LGIP section 3.6.2 (Notification of Cluster Restudy) the requirement that the host transmission provider notify any relevant affected system operators of a cluster restudy at the same time that it notifies the interconnection customers in the cluster restudy. Through this modification, the affected system transmission provider will receive notification of the cluster restudy before commencement or completion of a planned or in-progress affected system study and can use that information to decide whether to move forward with the affected system study or to delay the affected system study until the host transmission provider completes the cluster restudy. We also add *pro forma* LGIP section 9.2.2 (Response to Notification of Cluster Restudy) to allow the affected system transmission provider five business days from receiving notification of the cluster restudy to send a written notification to the relevant affected system interconnection customers and the host transmission provider if it intends to delay commencement or completion of a planned or in-progress affected system study until after the completion of the cluster restudy. If the affected system transmission provider decides to delay the affected system

study, then it is not required to perform its obligations under *pro forma* LGIP section 9 until the time that it receives notification from the host transmission provider that the cluster restudy is complete. In contrast, if the affected system transmission provider decides to move forward with its affected system study despite the cluster restudy, then it must meet all obligations to proceed with the affected system study process under *pro forma* LGIP section 9.

499. Additionally, we modify *pro forma* LGIP section 9.5 (Execution of Affected System Study Agreement/Multiparty Affected System Study Agreement) to remove the requirement for an affected system interconnection customer to execute and return its previously received affected system study agreement/multiparty affected system study agreement and submit its affected system study deposit if the affected system transmission provider decides to delay the affected system study, pursuant to *pro forma* LGIP section 9.2.2. We find this modification necessary because the affected system transmission provider will provide the affected system interconnection customer with a new affected system study agreement/multiparty affected system study agreement in this circumstance, and the previously tendered agreement will be moot.

500. We add a new *pro forma* LGIP section 3.6.3 (Notification of Cluster Restudy Completion) to require that, upon the completion of the host transmission provider's cluster restudy, the host transmission provider will notify the affected system transmission provider the completion of the cluster restudy and of a potential affected system impact caused by an interconnection request within 10 business days of the completion of the cluster restudy, regardless of whether that potential affected system

impact was previously identified. At the time of the notification of the completion of the cluster restudy to the affected system operator, the host transmission provider must provide the interconnection customer with a list of potential affected systems, along with relevant contact information.

501. Moreover, we clarify that, upon the receipt of notification of any potential affected system impacts from interconnection customers in the cluster restudy, the affected system transmission provider must respond in writing to such interconnection customers within 20 business days whether it intends to conduct an affected system study. Accordingly, we rename former *pro forma* LGIP section 9.2 (Response to Initial Notification) to "Response to Notifications" and move the requirements into new section 9.2.1 (Response to Initial Notification). We revise the requirements to clarify that an affected system transmission provider's obligations under section 9.2.1 apply whether in response to a notification that an affected system interconnection customer's proposed interconnection to its host transmission provider may impact the affected system based on a cluster study or a cluster restudy. Finally, we revise a reference in *pro forma* LGIP section 9.4 (Affected System Study Agreement/Multiparty Affected System Study Agreement) from section 9.2 to section 9.2.1.

502. We disagree with Clean Energy Associations' and Invenergy's assertions that Order No. 2023 was arbitrary and capricious because it failed to allow interconnection customers to withdraw penalty-free from the interconnection queue if such withdrawal follows significant, unanticipated increases in affected system network upgrade cost estimates. Although the affected system study process reforms seek to coordinate the

host system and affected system studies, there is no guarantee that affected system network upgrade costs will be known even at the time of LGIA finalization, particularly where the affected system is non-jurisdictional and, therefore, not governed by the *pro forma* LGIP affected systems processes. The possibility of a long lag between delivery of host system facilities study report and affected system study report could lead to uncertainty for other interconnection customers in the same cluster who are not awaiting affected system study reports and thus must finalize their LGIAs pursuant to *pro forma* LGIP section 11.2.1. Allowing late-stage, penalty-free withdrawal for interconnection customers after potentially delayed receipt of the affected system study report could substantially harm those interconnection customers who had to finalize their LGIAs and share network upgrade costs with the withdrawing interconnection customer. Such a practice of penalty-free withdrawal after other interconnection customers in the same cluster have finalized their LGIAs would give greater weight to cost certainty of a few interconnection customers who are awaiting affected system study results than to the many interconnection customers who did not impact an affected system and had to finalize their LGIAs. Furthermore, penalty-free withdrawal of interconnection customers after they have received their affected system study results and after other interconnection customers in the same cluster have finalized their LGIAs could lead to one of the very problems Order No. 2023 sought to mitigate—cascading withdrawals and restudies—which can result in cost increases and delays, which in turn can prompt further late-stage

withdrawals.[937] It is, therefore, more important for *all* interconnection customers in a cluster to have greater certainty that, once interconnection customers decide whether to proceed after the final facilities study report, withdrawals are less likely, than for one or few interconnection customers in a cluster to have cost estimate certainty inclusive of affected system study results.

503. We expect that the affected system study process reforms in Order No. 2023 should reduce affected system network upgrade costs. Specifically, as Clean Energy Associations and Invenergy point out, the Commission stated in Order No. 2023 that the use of ERIS to conduct affected system studies *should* reduce the number and total cost of affected system network upgrades assigned to interconnection customers with affected system impacts. We did not, as Invenergy implies, state that the use of ERIS in affected system studies *guarantees* fewer assigned costs. As the Commission noted in Order No. 2023, interconnection customers inherently assume some risk.[938] Interconnection customers will calculate that risk into their decision as to whether to stay in the queue following the receipt of their facilities study reports, and we note that interconnection customers are always able to withdraw, pursuant to *pro forma* LGIP section 3.7, if their project becomes uneconomical based on significant affected system network upgrade costs. We also note that the language in *pro forma* LGIP section 3.7.1 applies to network

[937] Order No. 2023, 184 FERC ¶ 61,054 at P 49.

[938] *Id.* P 1151.

upgrades costs assigned to the interconnection request, and, because an affected system network upgrade is a subset of network upgrades, affected system network upgrade cost estimates should be included in the total cost increase if listed in the facilities study report. In such a situation, if the network upgrades costs (including the affected system network upgrade costs) in the facilities study report were more than 100% higher than the cluster study report, then the interconnection customer may be eligible for penalty-free withdrawals.

504. We are unpersuaded by Clean Energy Associations' and Invenergy's assertions that, even if ERIS modeling decreases the number of interconnection customers receiving significant affected system network upgrades costs, this does not ameliorate the differing treatment between interconnection customers with significant network upgrades and those with significant affected system network upgrades. An interconnection customer that is notified of significant network upgrades and one that is notified of significant affected system network upgrades are not differently situated, as alleged, because affected system network upgrade costs may occur less often, but rather because of the timing within the interconnection study process that such notices occur, and the increased impacts on other interconnection customers of allowing for penalty-free withdrawal late within that process. As discussed above, because allowing late-stage, penalty-free withdrawal for interconnection customers after potentially delayed receipt of the affected system study report could substantially harm those interconnection customers who had to finalize their LGIAs and share network upgrade costs with the withdrawing interconnection customer, the differing requirements are justified.

505. We, therefore, are not persuaded to extend penalty-free withdrawal provisions to interconnection customers for affected system network upgrade cost increases beyond a certain threshold. As noted, in the interest of greater cost certainty for all interconnection customers, we maintain that penalty-free withdrawal exemptions triggered by cost increases above a certain threshold are not applicable after the finalization of the LGIA for any interconnection customers in the same cluster, even an interconnection customer that must finalize its LGIA before receiving its affected system study report. We also disagree that the lack of penalty-free withdrawal thresholds essentially results in uncapped liability because the interconnection customer may still withdraw and face only the withdrawal penalty.

506. We disagree with Clean Energy Associations' and Invenergy's arguments that failing to include affected system network upgrade costs in withdrawal penalty exemption calculations will discourage generating facilities that experience significant cost increases from withdrawing from the interconnection process in a timely manner. As long as the interconnection customer fulfills its obligations under the *pro forma* LGIP, it may opt to stay in the queue until it decides that its project is uneconomical. If the interconnection customer decides after receiving its affected system study report that significant cost increases render its project uneconomical, nothing in the *pro forma* LGIP prohibits it from withdrawing from the queue at that time. Moreover, if affected system network upgrade costs were included as a basis for withdrawal penalty-free in all cases, this could encourage interconnection customers waiting for their affected systems study results to remain in the queue, even if they have determined that their proposed

generating facility is no longer commercially viable, because the possibility of significant affected systems network upgrade costs in such study could allow for withdrawal penalty-free.

507. We disagree with SPP's assertion that requiring affected system transmission providers to use ERIS in affected system studies will result in significant equity issues because of the differences in how neighboring transmission providers study generators requesting firm transmission service. SPP states that each RTO/ISO evaluates deliverability of resources pursuant to its individual Commission-approved processes and relies on the differences between SPP's and MISO's interconnection and transmission service study processes as evidence for its need to use NRIS for affected system interconnection requests requesting NRIS on their host system to ensure deliverability. However, as the Commission found in Order No. 2003 and reiterated in Order No. 2023, interconnection service is an element of, but separate from the delivery component of, transmission service, and, in the majority of circumstances, interconnection alone is unlikely to affect the reliability of an affected system transmission provider's transmission system.[939] Furthermore, the differences between SPP's and MISO's interconnection and

[939] *Id.* P 1288 (citing Order No. 2003, 104 FERC ¶ 61,103 at PP 118-120; Order No. 2003-A, 106 FERC ¶ 61,220 at P 113); *see also Tenn. Power Co.*, 90 FERC ¶ 61,238, at 61,761 (2000) (finding that interconnection is an element of transmission service but that the interconnection component of transmission service may be requested separately from the delivery component (i.e., interconnection is distinct from transmission service)); *see also* Fervo Energy Initial Comments at 6, Shell Initial Comments at 32, Utah Municipal Power Initial Comments at 6 (all stating that the use of ERIS in affected system studies will reduce the assignment of unnecessary network upgrades).

transmission study processes that SPP describes do not undermine the bases on which the Commission determined that continuing to permit affected system transmission providers to study affected system interconnection customers using NRIS assumptions would allow unjust and unreasonable rates to persist.[940] A primary basis on which the Commission found the ERIS requirement just and reasonable is that even when an interconnection customer seeks NRIS on the host system, it does not seek—and an affected system transmission provider has no obligation to continually ensure—deliverability on the affected system.[941] To instead permit an affected system transmission provider to use NRIS assumptions risks "an affected system interconnection customer [facing] increased costs without a commensurate increase in service."[942] We continue to find that adopting the ERIS requirement for affected system transmission providers will provide important benefits[943] even where the details of study processes may differ somewhat across

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[940] *Id*. P 1278.

[941] *Id*. P 1277. *See also infra* n.11931172.

[942] Order No. 2023, 184 FERC ¶ 61,054 at P 1278.

[943] *Id.* at PP 1278-1280 (identifying as benefits that affected system interconnection customers (1) will not be required to construct significant network upgrades on the affected system while not receiving deliverability on that system due to curtailment or congestion on the affected system; (2) will not face significant upfront costs to construct affected system network upgrades, which could lead to late-stage withdrawals given that interconnection customers will not receive affected system study results until late in the interconnection process; and (3) will be studied in a consistent and transparent manner across transmission provider regions, thus avoiding potentially dramatically different affected system network upgrades costs due to varying modeling standards without any factual or service differences to justify discriminatory treatment).

transmission providers, and that such requirement is sufficient to capture reliability impacts of affected system interconnection requests on the affected system.[944]

508. We similarly reject PJM's request for clarification that Order No. 2023's requirement for affected system transmission providers to use ERIS when conducting affected system studies will not apply to PJM's affected system studies. We reject this clarification because it is essentially a request for the Commission to allow PJM to deviate from the requirements outlined in Order No. 2023 based on its individual interconnection study procedures. Consistent with the Commission's statements in Order No. 2023, transmission providers may explain specific circumstances on compliance and justify why any deviations are either 'consistent with or superior to' the *pro forma* LGIP or merit an independent entity variation in the context of RTOs/ISOs.[945]

509. We also disagree with SPP's assertion that the Commission's rationale for requiring ERIS conflicts with the Commission's long-standing policy that interconnection customers should be responsible for the costs of all network upgrades that would not be required "but for" their interconnection. This policy only requires interconnection customers to pay initially the costs of network upgrades that would not have been needed but for the interconnection of the interconnection customer's

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[944] *Id.* PP 1285, 1290. As Order No. 2023 explained transmission providers may explain specific circumstances on compliance and justify why any deviations are either "consistent with or superior to" the *pro forma* LGIP or merit an independent entity variation in the context of RTOs/ISOs. *Id.* P 1764.

[945] *Id.*

generating facility.[946] The Commission has not defined a particular technical approach that must be implemented in order to reasonably capture these "but for" network upgrade costs; instead, the Commission has accepted varying approaches as just and reasonable and not unduly discriminatory or preferential.[947] In Order No. 2023, the Commission found that "any significant impact would generally be captured by an ERIS study" and such study would "ensure any reliability impacts on the affected system are mitigated to accommodate the affected systems interconnection customer's proposed generating facility to the host system."[948] Accordingly, requiring use of an ERIS study to assign affected system network upgrades to affected system interconnection customers does not conflict with the Commission's "but for" pricing policy.

510. We disagree with SPP's assertion that the Commission's reliance on MISO's use of ERIS in affected system studies fails to recognize that SPP assesses deliverability through the transmission service process. Order No. 2023 relies on MISO's use of ERIS

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[946] Order No. 2003, 104 FERC ¶ 61,103 at P 694 (finding that "it is appropriate for the Interconnection Customer to pay initially the full cost of . . . Network Upgrades that would not be needed but for the interconnection").

[947] We note that MISO's joint operating agreement with SPP states that MISO will use ERIS to study the impact of SPP's interconnection customers on MISO's system. *See* Southwest Power Pool Inc., Rate and Schedules and Seams Agreement Tariff, MISO-SPP Joint Operating Agreement, § 9.4 (Analysis of Interconnection Requests) § 9.4.d.iii (7.0.0); *Xcel Energy Servs., Inc. v. FERC*, 77 F.4th 1057, 1064 (D.C. Cir. 2023) (finding that the plain text of SPP's Attachment Z2, Section II.B, was ambiguous with respect to what methodology could be used to calculate charges under the "but for" standard in the tariff).

[948] Order No. 2023, 184 FERC ¶ 61,054 at P 1285.

in affected system studies simply to demonstrate that, as noted by MISO itself, this requirement does not result in reliability issues and will not cause unnecessary curtailment or redispatch on affected systems.[949]

511. We are unpersuaded by SPP's claim that the findings in Order No. 2023 contradict recent Commission precedent holding that the use of NRIS modeling standards in affected system studies is just and reasonable where the interconnection customer requested NRIS-level interconnection service on the host transmission system.[950] While the Commission previously allowed affected system transmission providers to justify their own approach to selecting the modeling standard used to evaluate affected system impacts, we found in Order No. 2023 that the assignment of significant affected system network upgrades under an NRIS study without a commensurate increase in service would result in unjust and unreasonable rates.[951] This is because the affected system transmission provider has no obligation to ensure that the output from an affected system interconnection customer's generating facility is integrated on the affected system similar to generating facilities that serve the affected system transmission provider's native load

[949] *Id.* P 1285 (citing MISO Initial Comments at 98).

[950] *See Tenaska Clear Creek Wind, LLC v. Sw. Power Pool, Inc.*, 180 FERC ¶ 61,160; *EDF Renewable Energy Inc. v. Midcontinent Indep. Sys. Operator, Inc.*, 168 FERC ¶ 61,173.

[951] Order No. 2023, 184 FERC ¶ 61,054 at P 1288.

customers or network resources.[952] The Commission found that the mismatch between costs and services received would occur because the affected system transmission provider has no obligation to ensure that the output from the affected system interconnection customer's generating facility is studied so that it could be integrated on the affected system similar to generating facilities that serve the affected system transmission provider's native load or customers and could lead to curtailment of the generating facility or there could be congestion on the affected system preventing deliverability of the generating facility's output.[953] Thus, we sustain Order No. 2023's finding that being assigned significant affected system network upgrades under an NRIS study, without the obligation for the affected system transmission provider to ensure that the output from an affected system interconnection customer's generating facility is integrated on the affected system similar to generating facilities that serve the affected system transmission provider's native load customers or network resources, results in unjust and unreasonable rates by increasing the cost for affected system interconnection

[952] The *pro forma* LGIP defines NRIS service as "an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider's Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market-based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service." *Pro forma* LGIP section 1.

[953] Order No. 2023, 184 FERC ¶ 61,054 at P 1278.

customers without a commensurate increase in service.[954] Given this finding, the Commission's previous permissiveness in allowing transmission providers to justify their own approach to affected system study modeling criteria is no longer appropriate.

512. Additionally, we note that the issue raised in *EDF Renewable Energy Inc. v. Midcontinent Indep. Sys. Operator, Inc.* was not whether the use of NRIS in affected system studies results in just and reasonable and not unduly discriminatory or preferential treatment of affected system interconnection customers. Rather, the issue was whether lack of transparency as to whether MISO, SPP, and PJM, as affected system transmission providers, would conduct affected system studies using NRIS or ERIS standards results in unjust and unreasonable rates. The Commission addressed in its holding the complainants' core concerns regarding transparency, finding, on the record in that proceeding, that there was not sufficient evidence to demonstrate that current modeling practices in those RTOs were unjust and unreasonable.[955] In any event, the Commission has sufficiently explained its evolution in thinking, as discussed above.

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[954] *Id.* P 1288; *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 536 (2009) ("The question in each case is whether the agency's reasons for the change, when viewed in light of the data available to it, and when informed by the experience and expertise of the agency, suffice to demonstrate that the new policy rests upon principles that are rational, neutral, and in accord with the agency's proper understanding of its authority.").

[955] *EDF Renewable Energy Inc. v. Midcontinent Indep. Sys. Operator, Inc.*, 168 FERC ¶ 61,173 at P 86.

b. Affected System *Pro Forma* Agreements

i. Order No. 2023 Requirements

513. The Commission adopted several *pro forma* agreements to improve the efficiency and transparency of the interactions among the parties during the affected system study process. The Commission first adopted a *pro forma* affected system study agreement in new Appendix 9 of the *pro forma* LGIP and a *pro forma* multiparty affected system study agreement in new Appendix 10 of the *pro forma* LGIP.[956] These *pro forma* affected system study agreements stipulate how to study the impact of interconnecting generating facilities on an affected system to identify network upgrades needed to accommodate the interconnection request. The Commission next adopted a *pro forma* affected system facilities construction agreement in new Appendix 11 of the *pro forma* LGIP and a *pro forma* multiparty affected system facilities construction agreement in new Appendix 12 of the *pro forma* LGIP.[957] These *pro forma* affected system facilities construction agreements standardize the terms and conditions regarding construction of affected system network upgrades.

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[956] Order No. 2023, 184 FERC ¶ 61,054 at PP 1171, 1232; *see pro forma* LGIP, apps. 9, 10.

[957] Order No. 2023, 184 FERC ¶ 61,054 at P 1233; *see pro forma* LGIP, apps. 10, 11.

ii. Requests for Rehearing and Clarification

514. Duke Southeast Utilities take issue with article 3.2.2.1 (Repayment) of the *pro forma* affected system facilities construction agreement, which states that the affected system interconnection customer shall be entitled to a cash repayment of the amount it paid for any affected system network upgrades.[958]

515. Duke Southeast Utilities state that, despite conceding that the repayment policy for affected system network upgrades was a NOPR proposal, the Commission declined to address arguments on the merits of this policy on the basis that the Commission simply proposed to memorialize the Commission's existing policy in a *pro forma* agreement for affected systems.[959] Duke Southeast Utilities contend that the Commission's refusal to engage on this critical question was wrong on the law and renders this portion of Order No. 2023 reversible error. Duke Southeast Utilities state that the Commission's central argument is that the cost allocation question is beyond the scope of Order No. 2023 because the Commission did not propose to change its existing policy. Duke Southeast Utilities assert that the Commission's "existing policy" is the subject of significant debate and ongoing litigation in the courts.[960] Duke Southeast Utilities state that they have

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[958] Duke Southeast Utilities Rehearing Request at 4.

[959] *Id.* (citing Order No. 2023, 184 FERC ¶ 61,054 at PP 1211, 1244).

[960] *Id.* at 5 (citing *Duke Energy Progress, LLC v. FERC*, Petitions for Review, Case No. 21-1272, (D.C. Cir., Dec. 27, 2021), Case No. 22-1072 (D.C. Cir., May 4, 2022), Case No. 22-1284 (D.C. Cir., Nov. 3, 2022), Case No. 22-1327 (D.C. Cir., Dec. 20, 2022); *Duke Energy Progress, LLC v. FERC*, Petition for Review, Case No. 23-1114

steadfastly maintained that, before Order No. 2023, there was no such existing policy that required affected system operators to reimburse distant interconnection customers. Duke Southeast Utilities explain that, first, because there was no *pro forma* affected system facilities construction agreement before now, transmission owners fashioned their own agreements and filed them with the Commission. Duke Southeast Utilities state that the Commission had routinely accepted such affected system agreements *without* reimbursement provisions, which it clearly would not have done if such filed agreements violated an "existing policy" of the Commission.[961]

516. Duke Southeast Utilities explain that, second, while the Commission has claimed that Order No. 2003 and the LGIA contain a requirement that affected system operators reimburse distant interconnection customers, the Commission was equally clear that the LGIA adopted in Order No. 2003 by its terms does not apply to affected system operators.[962] Duke Southeast Utilities state that, in *Midwest Independent Transmission System Operator, Inc.*, the Commission accepted an agreement between an affected system and an interconnection customer that allocated 50% of the network upgrade costs

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(D.C. Cir. Apr. 14, 2023)).

[961] *Id.* (citing *S. Co. Servs., Inc.*, Docket No. ER21-1701-000 (June 10, 2021) (delegated letter order); *S. Co. Servs., Inc.*, Docket No. ER20-2825-000 (Oct. 9, 2020) (delegated letter order); *Duke Energy Fla., LLC*, Docket No. ER20-2419-000 (Sept. 2, 2020) (delegated letter order) (accepting two agreements); *Fla. Power & Light Co.*, Docket No. ER19-2445-000 (Aug. 30, 2019) (delegated letter order); *MidAmerican Energy Co.*, Docket No. ER09-1654-000 (Oct. 22, 2009) (delegated letter order)).

[962] *Id.*

to the interconnection customer without reimbursement.[963] Duke Southeast Utilities state that, in the process of accepting that agreement, the Commission rejected the interconnection customer's argument that Order No. 2003 entitled it to 100% reimbursement, because the affected system there "was not a party to the interconnection agreement and cannot be bound by a contract to which it is not a party" and because "Order [ ] 2003 [ ] acknowledges that an Affected System is not bound by the Final Rule [Large Generator Interconnection Procedures] and interconnection agreement."[964] Duke Southeast Utilities conclude that it is therefore clear that there was no "existing policy" that would justify the Commission's refusal to engage this question in the present rulemaking.

517. Duke Southeast Utilities state that the Commission adopted a brand new agreement—th*e pro forma* affected system facilities construction agreement—that includes a mandatory reimbursement requirement without acknowledging its past practice of accepting such agreements without reimbursement language.[965] Duke Southeast Utilities assert that the Commission has repeatedly accepted proposed affected system agreements that allocate affected system network upgrade costs to affected system

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[963] *Id.* at 5-6 (citing *Midcontinent Indep. Trans. Sys. Operator, Inc.*, 120 FERC ¶ 61,066, at PP 16, 23–25 (2007) (*Midwest ISO*)).

[964] *Id.* at 6 (citing *Midwest ISO*, 120 FERC ¶ 61,066 at P 25 (capitalization altered) (citation omitted)).

[965] *Id.* at 8.

interconnection customers without reimbursement.[966] Duke Southeast Utilities argue that this reflects the Commission's practice of accepting as just and reasonable and not unduly discriminatory affected system agreements in which the affected system interconnection customer has no right to reimbursement. Duke Southeast Utilities contend that the Commission's failure to explain its change of course on its reimbursement policy without addressing the precedent from which it departs is a direct violation of the APA.[967]

518. Duke Southeast Utilities contend that, under this repayment provision, customers on the affected system must bear higher transmission costs to pay for network upgrades they do not need (by reimbursing interconnection customers who provide upfront funding), so that an interconnection customer can interconnect on a neighboring transmission system.[968] Duke Southeast Utilities state that, in the case of the Duke Southeast Utilities, and as shown in the rulemaking comments filed by North Carolina state regulators and consumer advocate bodies, this often means that the retail customers of North Carolina are forced to subsidize generating facilities interconnecting to, and selling into, PJM.[969] Duke Southeast Utilities assert that the Commission was not entitled

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[966] *Id.* (citing *Duke Energy Progress, LLC*, 177 FERC ¶ 61,001, at P 7 & n.16 (2021) (listing numerous examples cited by DEP with full allocation), *appeal pending*, Petition for Review, Case No. 21-1272, *order on reh'g*, 179 FERC ¶ 61,007 (2022), *appeal pending*, Petition for Review, Case No. 22-107).

[967] *Id.* (citing 5 U.S.C. §§ 551 *et seq).*

[968] *Id.* at 4.

[969] *Id.* at 4, 10 (citing Joint Comments of the North Carolina Utilities Commission

to willfully ignore changed circumstances and refuse to provide meaningful answers to arguments presented by North Carolina stakeholders.[970] Duke Southeast Utilities state that the Commission (1) acted arbitrarily and capriciously by failing to address the various commenters' concerns, and such actions without substantial evidence in support is grounds for reversal on its own under the APA[971] and (2) violated section 205 of the FPA by mandating a new *pro forma* cost allocation agreement without meaningfully considering the needs of impacted customers.[972]

519. Duke Southeast Utilities state that the Commission has not conducted an analysis based on the specific facts and record presented in this case to justify allocating these network upgrade costs to Duke Southeast Utilities' existing transmission customers.[973] Duke Southeast Utilities state that Order No. 2023 contains no explanation or evidence that the Commission considered the impacts to native transmission customers at all. Duke Southeast Utilities assert that, if the Commission undertook such a balancing of

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and the North Carolina Utilities Commission Public Staff, at 23, Docket No. RM22-14-000 (filed Oct. 13, 2022). The North Carolina Commission and Staff further provided that the total of the affected system costs for DEP of recent projects in the DENC territory that have already been studied is currently estimated at $126 million and there are several additional PJM queues for which affected system studies have yet to be completed and are projected to interconnect a total of 7,312 MW. *Id.* at 21-22.

[970] *Id.* at 6.

[971] *Id.* at 7.

[972] *Id.* at 9.

[973] *Id.* at 10.

interests, it had a responsibility under the APA to explain itself.[974] Duke Southeast Utilities argue that, on rehearing, the Commission should explain in detail what this analysis entailed.[975]

520. Duke Southeast Utilities argues that the Commission's cost allocation decision is inconsistent with the cost causation principle, which states that all approved rates must reflect to some degree the costs actually caused by the customer who must pay them[976] and that benefits must be at least roughly commensurate with costs.[977]

521. Duke Southeast Utilities state that the Commission declined in Order No. 2023 to respond to Duke Southeast Utilities' arguments that the reimbursement policy goes against the Commission's cost causation principles.[978] Duke Southeast Utilities state that the mere fact is that, "but for" the affected system interconnection customers' interconnection with the host transmission provider, there would be no need for the affected system network upgrades. Duke Southeast Utilities contend that customers on the affected system will not benefit from the interconnection of the affected system

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[974] *Id.* at 10-11 (citing *Gen. Chem. Corp. v. U.S.*, 817 F.2d 844, 857 (D.C. Cir. 1987) (finding an administrative agency order arbitrary and capricious because the agency's analysis was "internally inconsistent and inadequately explained.")).

[975] *Id.* at 11.

[976] *Id.* at 11-12 (citing Order No. 845-A, 166 FERC ¶ 61,137 at P 78 (citation omitted); *Ill. Commerce Comm'n*, 576 F.3d 470, at 476 (7th Cir. 2009)).

[977] *Id.* (citing *Ill. Commerce Comm'n*, 756 F.3d 556, at 562 (7th Cir. 2014)).

[978] *Id.* at 12-13 (citing Order No. 2023, 184 FERC ¶ 61,054 at PP 1243-44).

interconnection customers onto the interconnecting transmission provider's transmission system from an energy and capacity perspective because the affected system is not receiving energy and capacity from the host transmission provider: therefore, Duke Southeast Utilities' retail customers will not be receiving the generation. Duke Southeast Utilities state that the required network upgrades also provide no benefit to the customers of the affected system from a transmission perspective because they are not needed "but for" the affected system interconnection customers interconnection to the host transmission provider.

522. Duke Southeast Utilities' argue that, in the context of affected system network upgrades, the Commission should require affected system interconnection customers to fund the cost of affected system network upgrades because (a) such network upgrades would not be necessary but for the affected system interconnection request and (b) doing so would allocate the network upgrades costs to the party that caused the costs to be incurred and reaps the resulting benefits – the affected system interconnection customers.[979]

iii. Determination

523. We disagree with Duke Southeast Utilities' characterization that the Commission conceded that the affected system network upgrade reimbursement provisions in the *pro forma* affected system facilities construction agreements were a "NOPR proposal;"

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[979] *Id.* at 13.

rather, the Commission merely acknowledged that in the NOPR it included the existing affected system network upgrade reimbursement in the newly proposed *pro forma* affected system facilities construction agreements. The Commission did not state that the affected system network upgrade reimbursement was a "NOPR proposal" of new regulations.

524. In response to Duke Southeast Utilities' request for rehearing of the affected system network upgrade reimbursement provisions in the *pro forma* affected system facilities construction agreements, we note that, although we are not changing existing Commission policy, we continue to find that policy to be just, reasonable, and not unduly discriminatory or preferential. We disagree with Duke Southeast Utilities' assertion that, before Order No. 2023, there was no such existing affected system network upgrade reimbursement policy. As the Commission concluded in Order No. 2003, and we affirm here, the Commission's interconnection pricing policy as it applies to a non-independent affected system transmission provider should be consistent with the policy the Commission adopted for non-independent host transmission providers.[980] Specifically, under the Commission's interconnection pricing policy, the costs of interconnection facilities are the responsibility of the interconnection customer and the costs of network upgrades are funded initially by the interconnection customer (unless the transmission

[980] Order No. 2003, 106 FERC ¶ 61,220 at P 738; Order No. 2003-A, 106 FERC ¶ 61,220 at P 636.

provider elects to fund them), and the interconnection customer is entitled to a cash equivalent refund equal to the total amount paid for the network upgrades.[981]

525. We find that it is important for the repayment provisions for affected system interconnection customers to be consistent with the manner that the transmission provider repays its own interconnection customers. For example, the Commission in Order No. 2003 explained that non-independent transmission providers have an incentive to frustrate rival interconnection customers, and, absent a reimbursement requirement, such transmission providers might discriminate against independent interconnection customers by, for example, finding that a disproportionate share of the costs of expansions needed to serve its own power customers is attributable to competing interconnection customers.[982] This rationale applies equally to affected system transmission providers.

526. Affected system transmission providers might source generation from the host transmission provider's transmission system to serve its own load, and such affected system transmission provider's interests might benefit from additional network upgrades to facilitate transactions across the seam between transmission providers. If that is the case, the affected system transmission provider would have an incentive to impose additional burdensome and unnecessary affected system network upgrades on affected system interconnection customers; however, because under Commission policy the

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[981] Order No. 2003, 106 FERC ¶ 61,220 at PP 676, 693.

[982] *Id.* P 696.

affected system transmission providers are required to reimburse the affected system interconnection customer for those network upgrade costs, the incentive for discriminatory behavior is absent.

527. The Commission also found in Order No. 2003 that the reimbursement requirement would enhance competition by promoting new generation.[983] We similarly find that the requirement for affected system transmission providers to repay affected system interconnection customers will enhance competition because it will discourage affected system transmission providers from assigning unnecessary affected system network upgrade costs to interconnection customers if the transmission provider ultimately must reimburse the affected system interconnection customer for such costs.[984] In doing so, we continue to maintain that such additional generation and related enhanced competition will generally cause the average embedded cost transmission rate to decline for all remaining customers.[985]

528. We also continue to find, as we did in Order Nos. 2003 and 2003-A, that "network facilities are not 'sole use' facilities but facilities that benefit all Transmission Customers

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[983] *Id.* PP 694-696.

[984] *See id.* P 696.

[985] Order No. 2003-A, 106 FERC ¶ 61,220 at P 581 (stating that the Commission's "experience indicates that the incremental rate associated with network upgrades required to interconnect a new generator (dividing the costs of any necessary network upgrades by the projected transmission usage by the new generator) will generally be less that the embedded average cost rate (including the costs of the new facilities in the numerator and the additional usage of the system in the denominator).").

. . . the addition [of a network upgrade facility] represents a system expansion used by and benefiting all users due to the integrated nature of the grid."[986]

529. In response to Duke Southeast Utilities' assertion that the Commission has routinely accepted affected system agreements without affected system network upgrade reimbursement provisions, we clarify that such acceptances were in error and in contravention of Commission policy as established in Order No. 2003.[987] In Docket No. ER20-2419-000, the two service agreements at issue involved system protection facilities, the costs of which, per Duke Southeast Utilities' tariff, are directly assignable to an interconnection customer without reimbursement.[988]

530. We also disagree with Duke Southeast Utilities' assertion that the Commission has been clear that the *pro forma* LGIA adopted in Order No. 2003 does not apply to affected system operators. We reiterate that Order No. 2003's reimbursement requirements are reflected both in the preamble of Order No. 2003 and *pro forma* LGIA Article 11.4,

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[986] Order No. 2003, 106 FERC ¶ 61,220 at PP 21, 65, Order No. 2003-A, 106 FERC ¶ 61,220 at P 585; *see also Pub Serv. Co. Colo.*, 59 FERC ¶ 61,311 (1992), *reh'g denied*, 62 FERC ¶ 61,013 (1993); *W. Mass. Elec. Co.*, 77 FERC ¶ 61,268, at 62,119 (1996).

[987] *See Duke Energy Progress, LLC*, 181 FERC ¶ 61,197, at P 39 (2022); *Duke Energy Progress, LLC*, 177 FERC ¶ 61,001 at P 37.

[988] *Duke Energy Fla., LLC*, Docket No. ER20-2419-000 (Sept. 20, 2020) (delegated letter order).

which Order No. 2003 explicitly made applicable to all jurisdictional affected system operators.[989]

531. The *Midwest Independent Transmission System Operator, Inc.* proceeding that Duke Southeast Utilities cites is inapposite to the status quo as established in Order No. 2003. First, the affected system transmission owner was not a party to the agreement in that proceeding and was not required to reimburse the interconnection customer in a region that had transitioned to participant funding prior to the filing of the interconnection agreement at issue in that proceeding.[990] Second, the affected system "operator" was a transmission owner within the MISO footprint, not a transmission provider in a separate service territory with its own tariff.[991] Furthermore, in Order No. 2003, the Commission limited the use of participant funding to independent transmission providers, such as MISO, because of its concern that for a non-independent transmission provider, such as Duke Southeast Utilities, the implementation of participant funding

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[989] Order No. 2003, 106 FERC ¶ 61,220 at P 738; *see also Duke Energy Progress, LLC*, 177 FERC ¶ 61,001, *on reh'g*, 179 FERC ¶ 61,007, at P 33 ("Order No. 2003 explicitly requires jurisdictional affected system operators to reimburse interconnection customers for network upgrade costs.").

[990] *Midwest Indep. Transmission Sys. Operator, Inc.*, 120 FERC ¶ 61,066, at PP 24-25.

[991] In MISO, the definition of affected system encompasses an electric transmission or distribution system other than the transmission *owner's* transmission system that is affected by an interconnection request. MISO, FERC Electric Tariff, attach. X (Generator Interconnection Procedures (GIP)), (161.0.0) § 1.

creates opportunities for undue discrimination.[992] The Commission also stated that, if the affected system operator is an independent transmission provider, then it has flexibility regarding its interconnection pricing policy (including participant funding) that the affected system operator may propose while as discussed above, an affected system operator that is not independent must be consistent with the policy adopted for non-independent transmission providers (i.e., reimbursement).[993] This circumstance does not even speak to Order No. 2003's network upgrade reimbursement requirement for jurisdictional affected system operators, much less undermine it.

532. In response to Duke Southeast Utilities' allegation that the Commission failed to address commenters' concerns in Order No. 2023, we are not obligated to respond to each argument that goes to issues outside the scope of the proceeding one-by-one.[994] We reiterate that the affected system network upgrade reimbursement provisions in the *pro forma* affected system facilities construction agreements are a codification of existing Commission policy and are not a new policy proposal. Order No. 2023 is not a vehicle for challenging existing Commission policy[995] and, accordingly, the Commission did not

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[992] Order No. 2003, 106 FERC ¶ 61,220 at P 696.

[993] Order No. 2003-A, 106 FERC ¶ 61,220 at PP 636-637.

[994] *See Pub. Serv. Elec. & Gas Co. v. FERC*, 989 F.3d 10, 20 (D.C. Cir. 2021) (finding that the Commission need only respond to significant comments raised on rehearing and is free to ignore insignificant ones (citing *NARUC v. FERC*, 475 F.3d at 1285).

[995] *See* Order No. 2003, 104 FERC ¶ 61,103 at PP 738-739; *see also pro forma*

need to address each individual argument attempting to undermine existing Commission policy because Order No. 2023 did not revise the Commission's existing reimbursement policy.

533. Finally, we remove from the *pro forma* affected system facilities construction agreements sections 3.1.2.2 (Recommencing of Work) and 3.1.2.3 (Right to Suspend Due to Default). We find that these provisions are inconsistent with the *pro forma* LGIA and, accordingly, are unnecessary.

c. Miscellaneous

i. Requests for Rehearing and Clarification

534. MISO asks the Commission to require MISO, PJM, and SPP to coordinate their affected systems revisions on compliance.[996] MISO explains that Order No. 2023 only encourages, but does not require, "voluntary coordination between transmission providers who share transmission system seams and whose customers frequently impact each other's systems."[997] MISO argues that this could potentially allow neighboring RTOs/ISOs to independently develop affected systems approaches that could conflict with each other's procedures and disrupt or sideline existing joint operating agreement

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LGIA art. 11.4.

[996] MISO Rehearing Request at 17.

[997] *Id.* at 18 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1172).

coordination processes.[998] MISO states that MISO, PJM, and SPP would need to intervene in each other's compliance proceedings to monitor proposed revisions and protest if needed, which would be less efficient than the current joint affected system coordination process. MISO adds that misalignment on affected systems studies between MISO, PJM, and SPP could lead to delayed study penalties. Further, MISO explains that the Commission has previously required coordinated filings by RTO/ISOs proposing identical changes to their joint operating agreements. MISO states that it addressed these concerns in its comments but asserts that Order No. 2023 did not meaningfully respond to them and failed to acknowledge the unique status of MISO, PJM, and SPP's affected system coordination procedures. Rather, MISO explains that Order No. 2023 states that the Commission "is not persuaded that any potential efficiencies of such coordination outweigh the burdens that may be placed on host transmission providers."[999] MISO argues that ignoring these arguments violates the requirement of reasoned decision-making and asserts that it is arbitrary and capricious that the Commission did not justify its departure from its precedent of requiring coordination between transmission providers.

535. Shell requests clarification that affected system transmission providers must reimburse affected system interconnection customers for affected system network upgrades, not only when those network upgrades are identified via a traditional affected

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[998] *Id.* at 19-20.

[999] *Id.* at 21 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1172).

system study, but also when identified through a seams study.[1000] Shell explains that seams studies integrate generator interconnection and regional and inter-regional transmission planning and cost allocation. Shell asserts that it would be unjust, unreasonable, and unduly discriminatory to reimburse interconnection customers for affected systems network upgrades identified under the revised *pro forma*, but not those identified under a seams arrangement.

536. Southeastern Utilities agree with the Commission that, in most cases, an affected system transmission provider will receive the opportunity to study a delivery request if the "affected system interconnection customer subsequently seeks deliverability on either the host system or an affected system."[1001] However, Southeastern Utilities explain that, in some cases, the host transmission provider may not perform a transmission service study before power flows from a generating facility based on an NRIS request, and in those cases, it is not clear how or when the affected system transmission provider would have the opportunity to study the transmission service request. For example, Southeastern Utilities note that MISO's business practice manual allows MISO to accept a network service request "without further analysis" if the generating facility implicated in the request is a MISO aggregate deliverable resource that is identified during an NRIS

[1000] Shell Rehearing Request at 13-14.

[1001] Southeastern Utilities Clarification and Rehearing Request at 4 (citing Order 2023, 184 FERC ¶ 61,054 at P 1288).

deliverability study.[1002] Therefore, Southeastern Utilities ask the Commission to clarify that, in the event a host transmission provider performs a delivery analysis as part of its interconnection study, the affected system transmission provider can also study both interconnection and delivery requirements because the affected system transmission provider may not have an opportunity to study a transmission service request related to the generating facility.[1003] Southeastern Utilities argue that this clarification is needed to better consider impacts on their systems from delivery of power on neighboring systems. If the Commission does not provide clarification, Southeastern Utilities request rehearing on this matter. Southeastern Utilities argue that prohibiting affected system transmission providers to perform a delivery study along with an interconnection study under the circumstances it describes would be arbitrary and capricious and contrary to law for failing to consider all aspects of the issue under consideration, inconsistent with the Commission's stated rationale, and would jeopardize system reliability.

ii. Determination

537. We reject MISO's request that the Commission require MISO, PJM, and SPP to coordinate their affected systems revisions on compliance. We disagree with MISO's argument that failing to include a directive for joint operating parties to coordinate affected systems was arbitrary and capricious. Order No. 2023 sets the requirements in

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[1002] *Id.* (citing MISO, BPM-020-r29 (Transmission Planning Business Practices Manual), section 5.2.3 (May 2023)).

[1003] *Id.* at 5-6.

the *pro forma* LGIP for the affected system study process. As MISO acknowledges in its rehearing request, the RTOs'/ISOs' joint operating agreements are "unique" and thus are not part of the Commission's *pro forma* LGIP. We recognize that MISO has joint operating agreements with SPP and PJM that may need to be updated to reflect the requirements of Order No. 2023, and to the extent that revisions are needed, then we expect that MISO, PJM, and SPP will propose revisions to their joint operating agreements to ensure that there are no conflicts among their joint operating agreements, their LGIPs, and Order No. 2023's requirements.

538. We also disagree with MISO's argument that failing to include a directive for joint operating parties to coordinate affected systems is a departure from Commission precedent. We note that MISO points to a complaint that was specifically filed against MISO's, PJM's, and SPP's joint operating agreements and tariffs. However, here, we are revising the Commission's *pro forma* LGIP. Order No. 2023 does not modify or address individual seams arrangements, which are not part of the Commission's *pro forma* LGIP. We agree that alignment among neighboring processes is important, and we continue to encourage voluntary coordination between transmission providers who share transmission seams.[1004]

539. We also reject Shell's request for clarification that affected system transmission providers must reimburse affected system interconnection customers for affected system

[1004] Order No. 2023, 184 FERC ¶ 61,054 at PP 1172, 1194.

network upgrades whether identified via a traditional affected system study or through a seams study, because such clarification is outside of the scope of Order No. 2023. As discussed above, Order No. 2023 modifies the Commission's *pro forma* LGIP to establish a standardized affected system study process. Additionally, as discussed above, we note that Order No. 2023 does not alter the Commission's existing reimbursement requirements for affected system network upgrades.

540. We reject Southeastern Utilities' request for rehearing that, in the event a host transmission provider does not perform a delivery analysis as part of its interconnection study, the affected system transmission provider can also study both interconnection and delivery requirements. In Order No. 2023, the Commission found, and we continue to find, that an affected system transmission provider must use ERIS studies on affected system interconnection requests regardless of the level of service requested on the host system. Southeastern Utilities argue that there are some instances where the affected system transmission provider will not have the opportunity to study the impact of the generating facility in the context of the associated transmission service request before any power flow from that generating facility and notes, as an example, that MISO does not conduct a deliverability study for network service requests when an interconnection customer requests NRIS. However, as discussed in Order No. 2023, the ERIS modeling requirement applies to the *pro forma* LGIP affected system study process and the Commission explicitly stated that it would not address whether a transmission provider

has adequate transmission service studies.[1005] As discussed above, the Commission found in Order No. 2003 and reiterated in Order No. 2023 that interconnection service is an element of, but separate from the delivery component of, transmission service.[1006]

E. Reforms to Incorporate Technological Advancements into the Interconnection Process

1. Increasing Flexibility in the Generation Interconnection Process

a. Co-Located Generating Facilities Behind One Point of Interconnection

i. Order No. 2023 Requirements

541. In Order No. 2023, the Commission revised *pro forma* LGIP section 3.1.2 to require transmission providers to allow more than one generating facility to co-locate on a shared site behind a single point of interconnection and share a single interconnection request.[1007] The Commission clarified that interconnection customers have the choice to structure their interconnection requests for co-located generating facilities according to their preference (i.e., as separate interconnection requests or as a shared interconnection request) and that Order No. 2023 does not require interconnection customers to share a single interconnection request for multiple generating facilities located on the same

[1005] *Id.* P 1290.

[1006] *Id.* P 1288 (citing Order No. 2003, 104 FERC ¶ 61,103 at P 118; Order No. 2003-A, 106 FERC ¶ 61,220 at P 113).

[1007] *Id.* P 1346.

site.[1008] The Commission also clarified that co-located generating facilities can be owned by a single interconnection customer with multiple generating facilities sharing a site, or by multiple interconnection customers that have a contract or other agreement that allows for shared land use.[1009]

542. The Commission found that co-located generating facilities, in spite of being prevalent in current interconnection queues, face barriers to interconnection under existing interconnection procedures, and that this reform will effectively remove such barriers.[1010] The Commission further found that requiring transmission providers to allow interconnection customers to submit a single interconnection request that represents multiple generating facilities that are located behind a single point of interconnection is required to ensure just and reasonable rates. The Commission stated that this reform will improve efficiency for transmission providers in the study process by reducing the number of interconnection requests in the interconnection queue and will reduce costs for interconnection customers because they will only submit a single set of deposits to enter the interconnection queue. The Commission also stated that this reform will improve

[1008] *Id.* PP 1351-1352.

[1009] *Id.* P 1355.

[1010] *Id.* P 1349.

interconnection queue efficiency without imposing an adverse impact on the efficacy of interconnection study results or other interconnection customers.[1011]

ii. Requests for Rehearing and Clarification

543. MISO urges the Commission to clarify that the requirement to allow co-located resources to share an interconnection request is limited to co-located resources owned by the same interconnection customer.[1012] MISO states that requiring or even allowing separate interconnection customers to combine their projects into a single interconnection request would create numerous opportunities for conflict and interconnection management challenges. MISO argues, for example, that, if one of two interconnection customers sharing an interconnection request fails to adhere to the requirements of MISO's LGIP and must be withdrawn, MISO would need to develop an extensive set of revisions to the LGIP and new procedures for separating one interconnection customer's facilities out of a shared interconnection request. MISO asserts that it is not necessary to require a transmission provider to allow separate interconnection customers to share an interconnection request for separate projects just to allow them to co-locate behind a common point of interconnection. Therefore, MISO asks the Commission to clarify that allowing multiple interconnection customers to share an interconnection request is merely one mechanism to achieve Order No. 2023's goal allowing interconnection customers to

[1011] *Id.* P 1350.

[1012] MISO Rehearing Request at 23-25.

co-locate their generating facilities and that transmission providers are not required to use that particular mechanism provided they adopt procedures to allow the intended result.

544. NYTOs ask the Commission to clarify the definition of stand alone network upgrades and the option to build standalone network upgrades in situations of co-located generating facilities.[1013] Specifically, NYTOs note that Order No. 2023 maintains the definition of stand alone network upgrades as "only those required for a single interconnection customer,"[1014] but also requires transmission providers to allow interconnection customers to submit a single interconnection request that represents multiple generating facilities that are located behind a single point of interconnection.[1015] Therefore, NYTOs urge the Commission to clarify application of the option to build stand alone network upgrades when required for a shared interconnection request.

iii. Determination

545. We are unpersuaded by MISO's arguments that the requirement to allow co-located resources to share an interconnection request should be limited to co-located resources owned by the same interconnection customer. We sustain our findings in Order No. 2023 that transmission providers must allow more than one generating facility to co-locate on a shared site behind a single point of interconnection and share a single

[1013] NYTOs Rehearing Request at 39.

[1014] *Id.* (citing Order No. 2023, 184 FERC ¶ 61,054 at P 193).

[1015] *Id.* (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1349).

interconnection request, and that such co-located generating facilities can be owned by a single interconnection customer with multiple generating facilities sharing a site, or by multiple interconnection customers that have a contract or other agreement that allows for shared land use.[1016] We continue to find that this reform will improve efficiency for transmission providers in the study process by reducing the number of interconnection requests in the interconnection queue and will reduce costs for interconnection customers because they will only submit a single set of deposits to enter the interconnection queue. For these reasons, we continue to believe that this reform will improve efficiency for both transmission providers and interconnection customers, and that this reform is necessary to ensure just and reasonable rates.

546. Regarding the situation that MISO describes, in which one of the co-located generating facilities sharing an interconnection request is withdrawn or requested to be withdrawn, we do not believe that revisions to the *pro forma* LGIP are needed to separate the facilities in the shared interconnection request. Rather, we believe that transmission providers should determine whether the entire shared interconnection request should proceed or be withdrawn using the existing withdrawal provisions in section 3.7 of the *pro forma* LGIP or the existing material modification procedures in section 4.4 of the *pro forma* LGIP. If a transmission provider would like to propose revisions to its LGIP to allow one co-located generating facility sharing an interconnection request to withdraw

[1016] Order No. 2023, 184 FERC ¶ 61,054 at P 1355.

from the queue while allowing another co-located generating facility sharing the same interconnection request to proceed in the interconnection queue, it may do so in an FPA section 205 filing.

547. In response to NYTOs' request for clarification, we believe that the revisions to the definition of stand alone network upgrades earlier in this order in response to Clean Energy Associations' request for rehearing should resolve NYTOs' concern and clarify the option to build stand alone network upgrades when required for a shared interconnection request.[1017]

b. Revisions to the Modification Process to Require Consideration of Generating Facility Additions

i. Order No. 2023 Requirements

548. In Order No. 2023, the Commission revised section 4.4.3 of the *pro forma* LGIP to require transmission providers to evaluate the proposed addition of a generating facility at the same point of interconnection prior to deeming such an addition a material modification, if the addition does not change the originally requested interconnection service level.[1018] The Commission found that automatically deeming a request to add a generating facility to an existing interconnection request to be a material modification

[1017] *See supra* section II.C.2.c.

[1018] Order No. 2023, 184 FERC ¶ 61,054 at P 1406.

without such evaluation creates a significant barrier to access to the transmission system and renders existing interconnection processes unjust and unreasonable.[1019]

549. The Commission clarified that interconnection customers may continue to request changes to proposed generating facilities at any time in the interconnection process; however, transmission providers are only required to evaluate whether a request to add a generating facility to an existing interconnection request is material if the request is submitted before the interconnection customer returns the executed facilities study agreement to the transmission provider. Once the executed facilities study agreement is returned, the transmission provider may decide to automatically treat requests to add a generating facility to an existing interconnection request as material modifications without review.[1020] The Commission also created an exception from these requirements for transmission providers that employ fuel-based dispatch assumptions.[1021]

550. The Commission clarified that, per *pro forma* LGIP section 4.4.1, prior to the return of the cluster study agreement from the transmission provider to the interconnection customer, a decrease of up to 60% of electrical output (MW) must not be considered a material modification.[1022] In addition, per *pro forma* LGIP section 4.4.2,

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[1019] *Id.* P 1407.

[1020] *Id.* PP 1409-1410.

[1021] *Id.* P 1411.

[1022] *Id.* P 1417.

prior to the return of the executed interconnection facilities study, an additional 15% decrease of electrical output of the proposed project must not be considered a material modification if the change occurred either through a decrease in plant size (MW) or a decrease in interconnection service level accomplished by applying transmission provider-approved injection-limiting equipment.

ii. Requests for Rehearing and Clarification

551. PJM seeks rehearing of this reform because it believes that the Commission fails to address the concerns PJM raised in its NOPR comments that locating an additional facility at the site of the first project can affect other interconnection customers, especially if the additional facility has a different fuel type than the initial facility.[1023] PJM adds that the Commission's determination is arbitrary and capricious because a project developer who is unsure which facilities it seeks to interconnect at the time of its application is not ready to proceed and performing a material modification analysis is time-consuming: therefore, this requirement is inconsistent with Order No. 2023's stated goal of facilitating a prompt study process that allows ready projects to move forward.

552. Shell seeks rehearing regarding the deadlines by which an interconnection customer can reduce the size of its generating facilities without the change being deemed a material modification.[1024] Shell notes that Order No. 2023 allows an initial 60% size

[1023] PJM Rehearing Request at 41-42.

[1024] Shell Rehearing Request at 7.

reduction prior to the interconnection customer executing the cluster study agreement. Shell states that, because Order No. 2023 eliminated the feasibility study from the interconnection study process, interconnection customers no longer have a basis at that point in the study process from which to determine if they should decrease the size of their generating facility. Shell argues that the Commission should revise *pro forma* LGIP section 4.4.1 to allow interconnection customers to reduce their project size after the initial cluster study report and prior to the start of the subsequent cluster re-study or facilities study.

553. Clean Energy Associations ask the Commission to clarify that changing solar modules or wind turbines, adding storage capacity, or making minor adjustment to inverter performance are presumptively immaterial if the project's planned export and import capacity remains the same.[1025] Clean Energy Associations state that finalizing procurement is highly reliant on the results and timing of the interconnection studies and argue that this clarification is necessary to ensure that project developers are not effectively forced into locking in inefficient equipment early in the interconnection process.

iii. Determination

554. We disagree with PJM that the Commission did not sufficiently address PJM's concerns that locating an additional facility at the site of the first project could affect

[1025] Clean Energy Associations Rehearing Request at 75-76.

other interconnection customers. In Order No. 2023, the Commission established a procedural requirement for transmission providers to evaluate the proposed addition of a generating facility at the same point of interconnection prior to deeming such an addition a material modification, if the addition does not change the originally requested interconnection service level.[1026] The Commission did not require any particular substantive outcome following this evaluation; rather, transmission providers may still find that a proposed modification involving the proposed addition of a generating facility at the same point of interconnection would have a material impact on the cost or timing of any interconnection request with an equal or later queue position, and therefore constitutes a material modification. While such evaluation likely entails some additional burden on the transmission provider, we continue to find that this outcome is warranted given the countervailing benefits. Specifically, we sustain our finding that transmission providers automatically deeming a request to add a generating facility to an existing interconnection request to be a material modification creates a significant barrier to access to the transmission system and renders existing interconnection processes unjust and unreasonable.[1027] Further, we continue to find that this reform will ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner, and will prevent undue discrimination.

[1026] Order No. 2023, 184 FERC ¶ 61,054 at P 1406.

[1027] *Id.* P 1407.

555. We are not persuaded by Shell's arguments on rehearing that the Commission should allow a 60% size reduction after the initial cluster study report and prior to the start of the subsequent cluster re-study or facilities study. We find that allowing every interconnection customer in a cluster a 60% size reduction after the initial cluster study report will significantly impact the amount of uncertainty faced by interconnection customers in a cluster—because each change in proposed generating facility size may shift network upgrade costs to other interconnection customers, who in turn, may elect to re-size—and may lead to withdrawals and restudies. Rather, we reiterate our finding that, per *pro forma* LGIP section 4.4.1, prior to the return of the cluster study agreement from the transmission provider to the interconnection customer, the proposed decrease of up to 60% of a generating facility's electrical output (MW) must not be considered a material modification.[1028] We clarify that this allowable decrease of up to 60% of a generating facility's electrical output may occur during the customer engagement window (i.e., prior to the return of the cluster study agreement from the transmission provider to the interconnection customer). Further, we note that interconnection customers have an additional opportunity to propose a decrease in the output of the generation facility after the cluster study report: per *pro forma* LGIP section 4.4.2, prior to the return of the executed interconnection facilities study, an additional 15% decrease of electrical output of the proposed project must not be considered a material modification if the change

[1028] *Id.* P 1417.

occurred either through a decrease in plant size (MW) or a decrease in interconnection service level accomplished by applying transmission provider-approved injection-limiting equipment.

556. We find Clean Energy Associations' requested clarification that changing solar modules or wind turbines, adding storage capacity, or making minor adjustments to inverter performance are presumptively immaterial if the project's planned export and import capacity remains the same, is outside the scope of this rulemaking. In Order No. 2023, the Commission did not establish a presumption of immateriality for any specific changes to an interconnection request that do not impact the requested interconnection service level. Rather, the Commission established a procedural requirement for transmission providers to evaluate the proposed addition of a generating facility at the same point of interconnection prior to deeming such an addition a material modification, if the addition does not change the originally requested interconnection service level.[1029] We decline to establish any presumption of immateriality here for specific changes to an interconnection request that do not impact the requested interconnection service level. We do note that Order No. 845 established the technological change procedure to provide for the evaluation of whether a technological advancement can be incorporated into an interconnection request without the change being considered a material modification (i.e.,

[1029] *Id.* P 1406.

whether the change is a permissible technological advancement).[1030] Any such technical change procedures are in the transmission provider's tariff, and Order No. 2023 did not affect them.

c. Availability of Surplus Interconnection Service

i. Order No. 2023 Requirements

557. In Order No. 2023, the Commission revised section 3.3.1 of the *pro forma* LGIP to require transmission providers to allow interconnection customers to access the surplus interconnection service process once the original interconnection customer has an executed LGIA or requests the filing of an unexecuted LGIA.[1031] The Commission found that this reform will enable interconnection customers with unused interconnection service to let other generating facilities use that interconnection service earlier than is currently allowed and, therefore, increase overall efficiency of the interconnection queue and in turn ensure just and reasonable rates.[1032] The Commission clarified that this reform does not modify how the surplus interconnection service process is conducted, but rather addresses when a request for surplus interconnection service may be submitted.[1033] The Commission further clarified that the original interconnection customer must have an

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[1030] Order No. 845, 163 FERC ¶ 61,043 at PP 510-536.

[1031] Order No. 2023, 184 FERC ¶ 61,054 at P 1436.

[1032] *Id.* P 1437.

[1033] *Id.* P 1447.

LGIA in place, either executed or requested to be filed unexecuted with the Commission, prior to the transmission provider tendering any LGIA for surplus interconnection service.[1034]

ii. Requests for Rehearing and Clarification

558. PJM requests clarification or, in the alternative, rehearing of Order No. 2023's requirement regarding surplus interconnection service.[1035] PJM asserts that, when the initial interconnection customer signs an LGIA, none of the network upgrades or customer interconnection facilities will have been built, such that there will be no service, much less "surplus" service, available. PJM argues that the requirement would introduce additional administrative burden, thereby detracting from the timely completion of interconnection studies and increasing the potential for study delay penalties, while providing little additional benefit to interconnection customers.[1036] PJM adds that studying co-located generating facilities of different fuel types is appropriate within the same cluster study rather than at disjointed points in time given that such generating facilities can have very different electrical characteristics. Therefore, PJM seeks clarification that it is entitled to an independent entity variation to not provide surplus interconnection service at such an early stage of project development or to not provide

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[1034] *Id.* P 1445.

[1035] PJM Rehearing Request at 35-36 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1438).

[1036] *Id.* at 37-38.

the service at any stage if it demonstrates that surplus interconnection service requests are inconsistent with its cluster study processes and will hinder efficient and timely clustered interconnection studies. In the alternative, PJM seeks rehearing of the requirement for being arbitrary and capricious because the expansion of surplus interconnection service runs contrary to Order No. 2023's goal of speeding up interconnection processes.

559. SPP asks the Commission to clarify that Order No. 2023 requires transmission providers to allow interconnection customers to *apply for* surplus interconnection service once the underlying GIA is executed or filed unexecuted, not that transmission providers must allow interconnection customers to begin receiving surplus interconnection service at that point.[1037] Because surplus interconnection service fundamentally relies upon another interconnection service request, SPP asks the Commission to clarify that Order No. 2023 does not obligate transmission providers to provide surplus interconnection service earlier than they provide interconnection service to the underlying interconnection service request. In the alternative, SPP requests rehearing of the requirement because it would be impossible for transmission providers to provide surplus interconnection service before providing service for the underlying interconnection request and would threaten system reliability.

[1037] SPP Rehearing Request at 21.

iii. Determination

560. We are unpersuaded by PJM's arguments on rehearing that the Commission should eliminate this reform because it would detract from the timely completion of interconnection studies without providing any measurable benefit to interconnection customers. We reiterate that the reform solely modifies when an interconnection customer can submit a request for surplus interconnection service, allowing interconnection customers to access the surplus interconnection service process once the initial interconnection customer has an executed LGIA or requests the filing of an unexecuted LGIA. Surplus interconnection service is defined as any unneeded portion of interconnection service established in an LGIA, such that if surplus interconnection service is utilized, the total amount of interconnection service at the point of interconnection would remain the same.[1038] PJM notes that, when the initial interconnection customer signs an LGIA, the interconnection facilities and network upgrades to accommodate the initial interconnection customer's generating facility will not yet have been built. At that point, however, it will be known whether there is any unneeded portion of interconnection service established in the LGIA that a surplus interconnection customer could utilize. For this reason, we disagree with PJM that interconnection customers should not be allowed to request surplus interconnection service once the initial interconnection customer signs an LGIA. We continue to find that

[1038] *Pro forma* LGIP section 1.

this reform will enable interconnection customers with unused interconnection service to allow other generating facilities to use that interconnection service earlier than was previously allowed and, therefore, will increase the overall efficiency of the interconnection queue. We continue to find that this reform will ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner, and will prevent undue discrimination.

561. We also decline to grant PJM's request for clarification that PJM is entitled to an independent entity variation to not provide surplus interconnection service. Consistent with the Commission's statements in Order No. 2023, transmission providers may explain specific circumstances on compliance and justify why any deviations are either consistent with or superior to the *pro forma* LGIP or merit an independent entity variation in the context of RTOs/ISOs.

562. We grant SPP's request for clarification that Order No. 2023 requires transmission providers to allow interconnection customers to *apply for* surplus interconnection service once the underlying LGIA is executed or filed unexecuted, not that transmission providers must allow interconnection customers to begin receiving surplus interconnection service at that point. As the Commission stated in Order No. 2023, and as SPP describes, this reform modifies when a request for surplus interconnection service may be submitted.[1039] We reiterate the clarification in Order No. 2023 that the initial

[1039] Order No. 2023, 184 FERC ¶ 61,054 at P 1447.

interconnection customer must have an LGIA in place, either executed or requested to be filed unexecuted with the Commission, prior to the transmission provider tendering any LGIA for surplus interconnection service.[1040]

d. Operating Assumptions for Interconnection Studies

i. Order No. 2023 Requirements

563. In Order No. 2023, the Commission revised sections 3.1.2, 3.2.1.2, 3.2.2.2, 3.3.1, 3.4.2, 4.4.3, 7.3, 8.2, and Appendix 1 of the *pro forma* LGIP and article 17.2 and Appendix H of the *pro forma* LGIA to require transmission providers, at the request of the interconnection customer, to use operating assumptions in interconnection studies that reflect the proposed charging behavior of electric storage resources[1041] (whether standalone, co-located generating facilities,[1042] or part of a hybrid generating facility[1043])—i.e., whether the interconnecting generating facility will or will not charge during peak load conditions—unless good utility practice, including applicable reliability

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[1040] *Id.* P 1445.

[1041] An electric storage resource is a generating facility capable of receiving electric energy from the grid and storing it for later injection of electricity. *See id.* P 1509 n.2854.

[1042] Co-located generating facilities are more than one generating facility that are located on the same site and that are connected at the same point of interconnection that are operated and dispatched as separate generating facilities. *See id.* P 1346 n. 2552.

[1043] A hybrid generating facility is a generating facility composed of more than one device of different technology types for the production and/or storage for later injection of electricity that are located on the same site and are operated and dispatched as a single integrated generating facility. *See id.* P 604 n.1204.

standards,[1044] otherwise requires the use of different operating assumptions.[1045] The Commission clarified that studying electric storage resources, at the request of the interconnection customer, according to their planned operating assumptions refers only to the operating assumptions for withdrawals of energy (e.g., the charging of an electric storage resource) in interconnection studies. The Commission further clarified that the reforms described in that determination section of Order No. 2023 and the related sections of the *pro forma* LGIP apply to all interconnecting electric storage resources, whether they are standalone, co-located generating facilities, or part of a hybrid generating facility.[1046]

564. The Commission stated that, if an interconnection customer fails to operate its electric storage resource in accordance with the operating assumptions memorialized in the interconnection customer's LGIA, the procedure for termination of the LGIA pursuant to articles 17.1.1 and 17.1.2 of the *pro forma* LGIA is appropriate.[1047] The Commission further found that an electric storage resource that operates contrary to the operating assumptions specified in its LGIA must not be considered in breach of its

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[1044] Applicable reliability standards means "the requirements and guidelines of the Electric Reliability Organization and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected." *See pro forma* LGIP section 1 (Definitions).

[1045] Order No. 2023, 184 FERC ¶ 61,054 at P 1509.

[1046] *Id.* n.2858.

[1047] *Id.* P 1521.

LGIA by the transmission provider if its operation is at the direction of the transmission provider to maintain the reliable and efficient operation of the transmission system.

565. The Commission found that, by more accurately reflecting the technical capabilities of electric storage resources in interconnection studies through the use of appropriate operating assumptions, this reform will ensure the reliable interconnection of new electric storage resources without overestimating their impact on the transmission system, thereby ensuring just and reasonable rates by avoiding excessive and unnecessary network upgrades that may hinder the timely development of new generating facilities that stifles competition in the wholesale market.[1048] The Commission also found that this reform reduces unduly discriminatory or preferential barriers to the interconnection of electric storage resources.

566. The Commission found that, taken together, the revisions to the *pro forma* LGIP and *pro forma* LGIA adopted in Order No. 2023 will ensure that interconnection customers adhere to the operating assumptions used to study their electric storage resource and ameliorate concerns about possible reliability problems expressed by commenters.[1049] The Commission further found that: (1) control devices can prevent electric storage resources from charging during peak load conditions; (2) modern electric storage resources can respond to signals from the transmission provider within seconds;

[1048] *Id.* P 1510.

[1049] *Id.* P 1522.

(3) electric storage resources generally do not have an economic incentive to charge during peak load conditions; and (4) the consequence of being considered in breach of the LGIA provides an additional incentive for electric storage resources to follow the agreed-upon operating assumptions memorialized in their LGIA. Further, the Commission noted that some transmission providers already assume in their interconnection studies that electric storage resources will not charge during peak load conditions.[1050] The Commission emphasized that, irrespective of these changes to operating assumptions, all electric storage resources must continue to meet all requirements in the *pro forma* LGIP and *pro forma* LGIA, as well as all applicable reliability standards.

567. The Commission found that the speed and control with which electric storage resources can respond to signals from transmission providers sufficiently distinguishes the charging behavior of electric storage resources from that of firm customer end-use load.[1051] Therefore, for purposes of determining any network upgrades necessary to accommodate the reliable interconnection of electric storage resources, the Commission found that the charging of electric storage resources should not be modeled equivalently to firm customer end-use load in interconnection studies if the interconnection customer

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[1050] *Id.* n.2865 (citing to Bonneville Initial Comments at 23; MISO Comments at 117; *PacifiCorp*, 182 FERC ¶ 61,131 (2023) (accepting, subject to condition, revisions to PacifiCorp's LGIP and LGIA to allow PacifiCorp to study electric storage resources in its interconnection study process using operating assumptions that more accurately reflect their expected operation)).

[1051] *Id.* P 1523.

memorializes its operating assumptions in the LGIA and installs control technologies, if required, to limit its operations as specified. The Commission further clarified that the transmission provider must not assign network upgrade costs to the interconnection customer based on those worst-case operating assumptions (e.g., charging at maximum capacity during peak load conditions) where there is agreement from the interconnection customer to, if required, implement operating restrictions including installing or demonstrating that the generating facility already has control technologies (software and/or hardware) to limit its operations during peak load conditions.[1052]

568. Additionally, in Order No. 2023 the Commission declined to extend the reform to apply to additional generating facility technologies (e.g., natural gas, solar, wind) or to other operating assumptions, including the injection of power.[1053] The Commission encouraged transmission providers to examine on an individual basis what operating assumptions used to study the injection of power may be appropriate to render the study process more accurate. The Commission also clarified that this requirement does not apply to transmission service requests and that Order No. 2023 does not modify the process for requesting transmission service.[1054]

[1052] *Id.* P 1525.

[1053] *Id.* P 1529.

[1054] *Id.* P 1526.

ii. Requests for Rehearing and Clarification

569. Joint RTOs and PJM request rehearing of the operating assumptions reform because they assert that the Commission failed to respond meaningfully to the concerns raised that the use of customer-provided operating assumptions in interconnection studies (1) is not consistent with how planning studies are performed, (2) will add additional administrative burdens for transmission providers, and (3) may jeopardize reliability and shift costs to load.[1055] Joint RTOs also urge the Commission to revise or clarify Order No. 2023 to allow RTOs/ISOs to develop generally applicable procedures for addressing storage charging assumptions rather than burdensome ad hoc analyses for each interconnection customer.[1056] Joint RTOs argue that the operating assumptions reform is impractical and creates reliability problems due to the complexities of the required studies and lack of feasible enforcement mechanisms, and will burden real-time operations to limit these units to assumptions they provided as part of their interconnection application.[1057]

570. Joint RTOs and PJM assert that transmission providers have no ability to monitor in real time if an interconnection customer violates its operating limits, which could threaten reliability, and contend that Order No. 2023 does not explain how transmission

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[1055] Joint RTOs Rehearing Request at 3, 6; PJM Rehearing Request at 12, 38.

[1056] Joint RTOs Rehearing Request at 6.

[1057] *Id.* at 4.

providers would police storage resources' operations and enforce the operating assumptions on which their interconnection studies were based.[1058] Joint RTOs and PJM add that, to the extent electric storage resources exceed their operating parameters in real time, the costs of network upgrades would fall unfairly upon load because, once interconnected, load (rather than the interconnection customer) is responsible for the costs of upgrading the system to maintain the unit's deliverability over its lifetime.[1059] Joint RTOs and PJM state that interconnection studies are not designed to incorporate the real-time dispatch of resources or withdrawals of load or storage resources, arguing that the Commission fails to distinguish how storage resources differ from other generating facilities so as to justify this unwarranted departure from the principles which underlie planning and interconnection analyses. Joint RTOs and PJM also argue that implementing this reform, including the requirement to provide an interconnection customer with an explanation of why the submitted operating assumptions are insufficient or inappropriate and allow the interconnection customer to revise and resubmit the operating assumptions, is likely to add more time to the interconnection study process and engender arguments of unequal treatment by other resources within a cluster.[1060] PJM adds that Order No. 2023 is unduly discriminatory and provides no clear

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[1058] *Id.* at 7-8; PJM Rehearing Request at 40.

[1059] Joint RTOs Rehearing Request at 5-6; PJM Rehearing Request at 40-41.

[1060] Joint RTOs Rehearing Request at 6-7; PJM Rehearing Request at 39.

basis for favoring storage projects over all other types of generating resources or other types of load.[1061]

571. NYISO requests rehearing of the operating assumptions reform because it is inconsistent with the NYISO-administered markets given that storage resources participating as installed capacity suppliers are required to bid, schedule, and/or declare unavailable their entire withdrawal operating range during the day-ahead market, or otherwise may be subject to financial penalties.[1062] NYISO adds that grid or market conditions may make it desirable for storage resources to charge during peak demand hours and/or during NYISO's peak load window, for example to capture energy production during peak output of solar generating facilities.[1063] NYISO argues that the reform will add significant new complexity to interconnection studies and increase the time required to complete such studies, which is at odds with the intent of Order No. 2023 to expedite such studies by establishing firm deadlines subject to penalties.[1064] NYISO asserts that requiring a transmission provider to consider the individual operating assumptions of each storage project would require that it create additional off-peak

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[1061] PJM Rehearing Request at 38-39.

[1062] NYISO Rehearing Request at 3, 54-55.

[1063] *Id.* at 54 (citing NYISO, Market Administration and Control Area Services Tariff, § 5.12 (MST Requirements Applicable to Installed Capacity Supply) (41.0.0) § 5.12.14).

[1064] *Id.* at 55-56.

system base cases that are tailored for each individual project as the standardized set of system base cases may not represent the system conditions where the developer of the storage project opts to charge.

572. In contrast, Public Interest Organizations argue that the Commission erred in limiting the reform to only the operating parameters for withdrawals of energy by storage resources and declining to extend it to storage injections or other technologies.[1065] Public Interest Organizations contend that the Commission's reasoning that the potential reliability impacts and administrative burden of extending the reform to injections of energy is arbitrary and capricious given (1) the broad support among commenters that the failure to use realistic operating assumptions for injections of power can result in unnecessary network upgrades, stifle competition, and create unduly discriminatory barriers and (2) the ample evidence presented of how the reliability impacts of injections are already being sufficiently managed by grid operators during real-time operations. Public Interest Organizations aver that, without consideration of operating parameters in interconnection studies, certain interconnection customers will be forced to pay for increasingly excessive and unnecessary upgrades that will sit unused, which will ultimately lead to a less efficient power system and unjust and unreasonable electricity costs for ratepayers.[1066]

[1065] Public Interest Organizations Rehearing Request at 17-18.

[1066] *Id.* at 19-20.

573. Clean Energy Associations request clarification, or in the alternative rehearing, so that the *pro forma* LGIP requires that the interconnection customer and transmission provider mutually agree in the cluster study agreement as to (1) which loading cases are applied to storage charging and discharging and (2) what power level or percentage output or percentage charging is applied to each case.[1067] Clean Energy Associations also ask the Commission to require transmission providers to identify which loading case triggered identified upgrades in the cluster study results. Further, to ensure that interconnection customers and transmission providers have clarity about the operating constraints that apply in an LGIA, Clean Energy Associations urge the Commission to specify requirements for operating assumptions in the cluster study agreement as well as what the transmission provider must deliver to the electric storage resource owner interconnection customer in cluster study results, rather than having the utility state when their peak load applies. Clean Energy Associations state that, because Order No. 2023 does not provide for any means to address situations in which the interconnection customer and transmission provider continue to have a disagreement after the revision and resubmittal of the operating assumptions during the customer engagement window, they seek clarification or, in the alternative rehearing, that interconnection customers may submit conflicting situations to the Commission along with a request to file the applicable

[1067] Clean Energy Associations Rehearing Request at 70-73.

study agreement unexecuted, with a request that the Commission determine which operating assumption should be used in the applicable study.

574. Clean Energy Associations ask the Commission to clarify that the planned operating assumptions of electric storage resources must be considered as part of the interconnection process.[1068] Clean Energy Associations assert that planned operating assumptions should also be considered part of transmission service requests. Clean Energy Associations also ask the Commission to clarify that the operating assumption requirement applies not just to standalone storage, but to hybrid and co-located resources as well. Clean Energy Associations add that, given the Commission's findings regarding the capabilities and incentives of energy storage resources, the Commission should clarify that modeling energy storage charging equivalently to firm customer end-use load for purposes of determining network upgrades is inconsistent with good utility practice going forward.[1069]

iii. Determination

575. We are not persuaded by PJM's and Joint RTOs' arguments on rehearing. First, we disagree with PJM and Joint RTOs that the Commission did not sufficiently articulate how electric storage resources are distinct from other types of generating facilities, why this reform is needed to ensure just and reasonable rates, and why this reform is not

[1068] *Id.* at 69-70.

[1069] *Id.* at 72-73.

unduly discriminatory or preferential. As the Commission stated in Order No. 2023, electric storage resources have operating parameters that differ from traditional types of generating facilities for which the generator interconnection process was originally designed, namely their ability to both inject power and withdraw power.[1070] The instant reform is directed specifically and exclusively at how transmission providers study the withdrawal of power from electric storage resources (i.e., the unique feature of electric storage resources compared to other types of generating facilities) within the generator interconnection process.

576. As the record indicates, the existing practice of some transmission providers is to study withdrawals of power from electric storage resources during peak load conditions equivalently to firm customer end-use load, and this practice results in excessive and unnecessary network upgrades and may hinder the timely development of new generation, thereby stifling competition in the wholesale markets, and resulting in rates, terms, and conditions that are unjust and unreasonable.[1071] We continue to find that the speed and control with which electric storage resources can respond to signals from transmission providers sufficiently distinguishes the charging behavior of electric storage

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[1070] Order No. 2023, 184 FERC ¶ 61,054 at P 1448.

[1071] *See, e.g.*, AEE Initial Comments at 42; Alliant Energy Initial Comments at 8; Clean Energy Associations Initial Comments at 52-53; Hydropower Commenters Initial Comments at 21-22; Longroad Reply Comments at 10-12; NARUC Initial Comments at 36-37; NESCOE Reply Comments at 18; Pine Gate Initial Comments at 51, 54; Public Interest Organizations Initial Comments at 47; rPlus Initial Comments at 6; SEIA Initial Comments at 40; SEIA Reply Comments at 27.

resources from that of firm customer end-use load, and that reflecting the technical capabilities of electric storage resources through the use of appropriate operating assumptions in interconnection studies reduces unduly discriminatory or preferential barriers to the interconnection of electric storage resources.[1072]

577. We are unpersuaded by PJM's and Joint RTOs' arguments that reflecting whether an interconnecting electric storage resource will or will not charge during peak load conditions is fundamentally incompatible with interconnection studies. We reiterate that Order No. 2023 requires transmission providers, at the request of the interconnection customer, to reflect in their interconnection studies whether an interconnecting electric storage resource will or will not charge during peak load conditions (unless good utility practice, including applicable reliability standards, otherwise requires the use of different operating assumptions).[1073] We clarify that the instant reform does not require transmission providers to develop new base cases for each interconnecting electric storage resource to reflect when that resource intends to charge. Rather, the reform requires transmission providers to reflect whether an electric storage resource will or will not charge in any studies of peak load conditions in the interconnection process. Transmission providers regularly evaluate the impact of an interconnecting generating facility on the transmission system during anticipated peak load conditions as part of their

[1072] Order No. 2023, 184 FERC ¶ 61,054 at P 1523.

[1073] *Id.* P 1509.

interconnection studies, and we note that some transmission providers already assume in their interconnection studies that electric storage resources will not charge during peak load conditions.[1074] Further, we agree with commenters in this record that, when transmission providers' interconnection studies rely on the assumption that all electric storage resources will withdraw power at their maximum capacity during peak load conditions (i.e., modeling the charging of electric storage resources equivalently to firm end-use customer demand), this practice fails to recognize the real-time attributes of electric storage resources, such as the ability to respond within seconds to dispatch signals from the transmission provider.[1075]

578. We disagree with PJM and Joint RTOs that this requirement will compromise reliability because, they argue, transmission providers are unable to monitor and enforce interconnection customer-provided operating assumptions. We continue to maintain that this reform will ensure the reliable operation of the transmission system because: (1) control devices are able to prevent electric storage resources from charging during peak load conditions; (2) modern electric storage resources are able to respond to signals from

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[1074] *See* Bonneville Initial Comments at 23; MISO Comments at 117; *see also PacifiCorp*, 182 FERC ¶ 61,131 (accepting, subject to condition, revisions to PacifiCorp's LGIP and LGIA to allow PacifiCorp to study electric storage resources in its interconnection study process using operating assumptions that more accurately reflect their expected operation).

[1075] *See, e.g.*, Clean Energy Alliance Initial Comments at 14-15; NARUC Initial Comments at 37; NESCOE Reply Comments at 18; PacifiCorp Initial Comments at 41; Pattern Energy Initial Comments at 12; Pine Gate Initial Comments at 51; SEIA Initial Comments at 40; Union of Concerned Scientists Reply Comments at 10-11.

the transmission provider within seconds; (3) electric storage resources generally do not have an economic incentive to charge during peak load conditions; and (4) the consequence of being considered in breach of the LGIA provides an additional incentive for electric storage resources to follow the agreed-upon operating assumptions memorialized in their LGIA, unless otherwise directed by the transmission provider. Further, we believe that ensuring that an electric storage resource adheres to the operating assumptions memorialized in its LGIA presents substantially similar concerns to ensuring that any generating facility stays within its interconnection service level (e.g., a generating facility that requests interconnection service less than its full generating facility capacity). We emphasize again that, irrespective of these changes to operating assumptions, all electric storage resources must continue to meet all requirements in the *pro forma* LGIP and *pro forma* LGIA, as well as all applicable reliability standards.

579. We disagree with Joint RTOs and PJM that, if an electric storage resource fails to adhere to its operating assumptions during real-time operations, load will be required to bear the costs of network upgrades needed to maintain deliverability of the electric storage resource over its lifetime. As the Commission stated in Order No. 2023, if an interconnection customer fails to operate its electric storage resource in accordance with the operating assumptions memorialized in the interconnection customer's LGIA (absent instructions from the transmission provider to the contrary), the transmission provider

may consider the electric storage resource to be in breach and may pursue termination of the LGIA pursuant to article 17 of the LGIA.[1076]

580. Regarding Joint RTOs' and PJM's argument that this reform will add administrative burdens for transmission providers, we continue to find that the benefits of this reform – reducing unduly discriminatory or preferential barriers to the interconnection of electric storage resources – outweigh the added burden to transmission providers. We decline to grant Joint RTOs' request for clarification that the Joint RTOs are entitled to an independent entity variation to develop generally applicable procedures for addressing storage charging assumptions rather than the reform as constructed in Order No. 2023. Consistent with the Commission's statements in Order No. 2023, transmission providers may explain specific circumstances on compliance and justify why any deviations are either consistent with or superior to the *pro forma* LGIP or merit an independent entity variation in the context of RTOs/ISOs.

581. We are not persuaded by NYISO's arguments on rehearing. We note that NYISO's arguments relate to NYISO's specific market rules and do not necessarily apply to the reform more broadly. In Order No. 2023, the Commission clarified that, if done so at the direction of the transmission provider to maintain the reliable and efficient operation of the transmission system, an electric storage resource that operates contrary to the operating assumptions specified in its LGIA must not be considered in breach of its

[1076] Order No. 2023, 184 FERC ¶ 61,054 at P 1521.

LGIA by the transmission provider.[1077] We believe this clarification ensures that the instant reform will work in concert with RTOs'/ISOs' existing congestion management practices. Additionally, we reiterate the clarification above that the instant reform does not require transmission providers to develop new base cases for each interconnecting electric storage resource to reflect when that resource intends to charge, as NYISO suggests. Rather, the reform requires transmission providers to reflect whether an electric storage resource will or will not charge in any studies of peak load conditions in the interconnection process. However, if NYISO continues to believe the instant reform conflicts with its market rules, NYISO may explain the specific circumstances on compliance and justify why any deviations merit an independent entity variation.

582. We are unpersuaded by Public Interest Organizations' arguments on rehearing that the Commission should extend this reform to apply to operating assumptions for injections of power from electric storage resources and other technologies. Although several commenters urged the use of more accurate operating assumptions for injections of power from certain types of generating facilities, we believe that the current record does not sufficiently support extending the instant reform to injections of power from all types of generating facilities and does not provide sufficient information on the incremental burden that such a reform could place on transmission providers' study methods and timelines. Further, we are concerned that extending the reform to apply to

[1077] *Id.* P 1521.

operating assumptions for injections of power from only some types of generating facilities and not all types of generating facilities that are capable of injecting power could potentially be unduly discriminatory or preferential. We continue to encourage transmission providers to examine on an individual basis what operating assumptions used to study the injection of power from generating facilities may be appropriate to render the study process more accurate. Similarly, we continue to acknowledge that fuel-based dispatch assumptions may be able to address some of the identified challenges associated with inaccurate modeling assumptions for all generating facility types and encourage transmission providers to evaluate the merits of adopting them.[1078]

583. We decline to grant Clean Energy Associations' requested clarification that the *pro forma* LGIP requires the interconnection customer and transmission provider to mutually agree in the cluster study agreement as to (1) which loading cases are applied to storage charging and discharging and (2) what power level or % output or % charging is applied to each case. The instant reform is directed specifically and exclusively at how transmission providers study the withdrawal of power from electric storage resources within the generator interconnection process (namely, whether an electric storage resource will or will not charge during peak load conditions). The Commission did not require transmission providers to revise how they study injections of power from electric

[1078] *Id.* P 1529.

storage resources, and we decline to do so now. For the same reason, we are unpersuaded by Clean Energy Associations' rehearing request on the same issue.

584. We also decline to grant Clean Energy Associations' requested clarification that, in situations in which the interconnection customer and transmission provider disagree about operating assumptions, the interconnection customers may request to file the applicable study agreement with the Commission unexecuted, with a request that the Commission determine which operating assumptions should be used in the applicable study. In such a situation, we find it more appropriate for the interconnection customer to instead use the dispute resolution procedures in section 13.5 of the *pro forma* LGIP. For the same reason, we are unpersuaded by Clean Energy Associations' rehearing request on the same issue.

585. We decline to grant Clean Energy Associations' requested clarification that the planned operating assumptions of electric storage resources must be considered as part of the interconnection process and in transmission service requests. In Order No. 2023, the Commission explained that the instant reform does not require transmission providers to study charging as part of the interconnection process if they do not already do so, and we decline to require so now.[1079] We reiterate that, if a transmission provider does not determine the network upgrades needed to accommodate the charging of an electric storage resource through the interconnection process (e.g., the transmission provider

[1079] *Id.* P 1526.

determines such upgrades as part of the transmission service request process), then the transmission provider must demonstrate on compliance why this reform does not apply to that particular transmission provider. Additionally, the Commission clarified in Order No. 2023 that the instant reform does not apply to transmission service requests, and Order No. 2023 does not modify the process for requesting transmission service.

586. In response to Clean Energy Associations' requested clarification that all aspects of the operating assumption reform of Order No. 2023[1080] apply not just to standalone storage, but also to hybrid and co-located generating facilities that contain an electric storage resource, we reiterate the clarification the Commission made in Order No. 2023: "For clarity, we note that the reforms described in this determination section and the related sections of the *pro forma* LGIP apply to all interconnecting electric storage resources, whether they are standalone, co-located generating facilities, or part of a hybrid generating facility."[1081]

587. We decline to grant Clean Energy Associations' requested clarification that modeling the charging of an electric storage resource equivalently to firm customer end-use load for purposes of determining network upgrades is inconsistent with good utility practice. We reiterate our finding that, for purposes of determining any network upgrades necessary to accommodate the reliable interconnection of electric storage

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[1080] *Id.* PP 1509 – 1533.

[1081] *Id.* P 1509 n.2858.

resources, the charging of electric storage resources should not be modeled equivalently to firm customer end-use load in interconnection studies if the interconnection customer agrees to memorialize its operating assumptions in the LGIA and installs control technologies, if required by the transmission provider, to limit its operations as specified.[1082] However, there are still situations in which we believe it is acceptable, and Order No. 2023 allows, for a transmission provider to continue to model an electric storage resource in interconnection studies as charging during peak load conditions, for example: (1) if the interconnection customer does not request during the interconnection process that the transmission provider study the electric storage resource as not charging during peak load conditions; (2) if the interconnection customer declines the transmission provider's request to install or demonstrate that it has installed control technologies sufficient to prevent it from charging during peak load conditions unless otherwise directed by the transmission provider; or (3) if the interconnection customer declines the transmission provider's request to memorialize the requested operating assumptions in its LGIA.

[1082] *Id.* P 1523.

2. Incorporating the Enumerated Alternative Transmission Technologies into the Generator Interconnection Process

a. Consideration of the Enumerated Alternative Transmission Technologies in Interconnection Studies Upon Request of the Interconnection Customer

i. Order No. 2023 Requirements

588. In Order No. 2023, the Commission revised section 7.3 of the *pro forma* LGIP, and sections 3.3.6 and 3.4.10 of the *pro forma* SGIP.[1083] The Commission required transmission providers to evaluate the following enumerated list of alternative transmission technologies: static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting. The Commission revised *pro forma* LGIP section 7.3 to require transmission providers to evaluate the list of alternative transmission technologies enumerated in Order No. 2023 during the cluster study, including any restudies, of the generator interconnection process in all instances (i.e., for all interconnection customers in a cluster), without the need for a request from an interconnection customer. The Commission required transmission providers to evaluate each alternative transmission technology listed in *pro forma* LGIP section 7.3 and to determine, in the transmission provider's sole discretion, whether it should be used, consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements. Finally, the Commission required transmission

[1083] *Id.* P 1578.

providers to include, in the *pro forma* LGIP cluster study report, an explanation of the results of the evaluation of the enumerated alternative transmission technologies for feasibility, cost, and time savings as an alternative to a traditional network upgrade.

589. The Commission modified the enumerated list of alternative transmission technologies from the NOPR proposal to: (1) retain synchronous, static VAR compensators, advanced power flow control, and transmission switching in the list; (2) add synchronous condensers, voltage source converters, advanced conductors, and tower lifting to the list; and (3) remove dynamic line ratings from the list.[1084] Generally, the Commission found that these enumerated alternative transmission technologies are those with the most potential to be useful to reduce interconnection costs by providing lower cost network upgrades to interconnect new generating facilities and thus required transmission providers to evaluate these technologies in the interconnection process for their feasibility, cost, and time savings potential.

590. The Commission revised sections 3.3.6 and 3.4.10 of the *pro forma* SGIP, consistent with the *pro forma* LGIP requirement, to require transmission providers to evaluate the enumerated alternative transmission technologies when performing interconnection studies for small generating facilities, without the need for a request from an interconnection customer.[1085] The Commission required such evaluations to occur

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[1084] *Id.* P 1579.

[1085] *Id.* P 1580.

during the *pro forma* SGIP feasibility study and system impact study of the generator interconnection process. The Commission found that it is appropriate for these evaluations to occur during the relevant *pro forma* SGIP studies where network upgrades are identified, consistent with the *pro forma* LGIP requirement. The Commission required transmission providers to evaluate each alternative transmission technology listed in *pro forma* SGIP sections 3.3.6 and 3.4.10 and determine, in the transmission provider's sole discretion, whether it should be used, consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements.

591. Finally, the Commission required transmission providers to include, in the feasibility study report and system impact study report, an explanation of the results of the evaluation of the enumerated alternative transmission technologies for feasibility, cost, and time savings as an alternative to a traditional network upgrade.[1086] The Commission noted that this reform is one of the few reforms in Order No. 2023 that applies to small generating facilities, in addition to large generating facilities. The Commission found that the enumerated alternative transmission technologies that it required transmission providers to evaluate in their interconnection studies are appropriate for evaluation in the *pro forma* SGIP context because they are scalable and that the enumerated alternative transmission technologies have the potential to provide

[1086] *Id.* P 1581.

similar benefits in the context of both small and large generating facilities, including cost and time savings.

592. Based on the record, the Commission found that alternative transmission technologies have the potential to provide benefits to optimize the transmission system in specific scenarios.[1087] The Commission found that failing to evaluate the enumerated alternative transmission technologies renders Commission-jurisdictional rates unjust and unreasonable and fails to ensure that interconnection customers are able to interconnect in a reliable, efficient, transparent, and timely manner.[1088]

593. The Commission found that the record demonstrated that the requirements adopted in Order No. 2023 will not overly burden transmission providers.[1089] The Commission also maintained that the requirement that transmission providers evaluate the enumerated

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[1087] *Id.* P 1583 (noting arguments that selecting alternative transmission technologies: may reduce interconnection costs by providing lower cost transmission solutions to interconnecting new generating facilities; may allow faster interconnection by providing solutions that can be implemented more quickly; may allow better use of the existing transmission system, enhance reliability, reduce withdrawals, restudies, and overall interconnection delays; would decrease network upgrade costs that will reduce the number of withdrawals from interconnection queues, ultimately creating a more efficient interconnection process by reducing the number of restudies triggered by withdrawals; and would offer additional value because they are scalable and modular to address evolving needs and can be redeployed as those needs continue to change).

[1088] *Id.* (citing NOPR, 179 FERC ¶ 61,194 at P 296; *see* Clean Energy Associations Reply Comments at 9-10; Environmental Defense Fund Initial Comments at 7; Fervo Reply Comments at 9; NARUC Initial Comments at 38).

[1089] *Id.* P 1586 (citing AEE Initial Comments at 44; ENGIE Initial Comments at 13; ACORE Reply Comments at 3-4).

alternative transmission technologies for an entire cluster—rather than on an individual interconnection customer-request basis—and the modifications to the enumerated list of alternative transmission technologies will ease the burden on transmission providers, thereby lessening the risk that they are unable to complete studies by the required deadlines.[1090] The Commission noted that it was not dictating how a transmission provider must evaluate each enumerated alternative transmission technology on the list in each instance. The Commission recognized that in some cases transmission providers may be able to rapidly determine if a certain enumerated alternative transmission technology is inappropriate for further study.

594. The Commission also found that the benefits of evaluating and implementing the enumerated alternative transmission technologies outweigh any potential burden or the potential of increased study times.[1091] The Commission stated that, as recognized by commenters and explained earlier in Order No. 2023, the evaluation and use, at the transmission provider's sole discretion, of the enumerated alternative transmission technologies could decrease network upgrade costs, withdrawals, and restudies, thereby increasing the efficiency of the interconnection process overall. For these reasons, the Commission disagreed with commenters who argued that requiring transmission

[1090] *Id.* P 1590.

[1091] *Id.* P 1586 (citing AEE Initial Comments at 44; ENGIE Initial Comments at 13; ACORE Reply Comments at 3-4).

providers to evaluate the enumerated alternative transmission technologies is contrary to the NOPR's goal of increasing the speed of interconnection queue processing.

595. The Commission explained that Order No. 2023 did not create a presumption in favor of substituting alternative transmission technologies for necessary traditional network upgrades, either categorically or in specific cases.[1092] The Commission stated that Order No. 2023 is agnostic as to whether, in a specific case, an alternative transmission technology is an acceptable alternative to a traditional network upgrade.[1093] The Commission explained that the rule mandates a *process* of evaluation of alternatives to traditional network upgrades, not outcomes in specific cases.[1094]

596. The Commission stated that the requirement is to evaluate the enumerated alternative transmission technologies in the interconnection process for feasibility, cost,

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[1092] *Id.* PP 1582, 1584 (citing PJM Initial Comments at 68 ("PJM therefore cautions the Commission not to conflate the operational benefits of alternative transmission technologies . . . with the need to address significant capacity enhancement needs (short and long-term) or long-range transmission needs under rapid growth or changing resource mix scenarios."); MISO Initial Comments at 120 ("However, the Commission fails to recognize that these technologies may be evaluated in the generator interconnection process already but may nonetheless not be adopted as they are not the appropriate solution to a Transmission Issue related to an interconnection.")).

[1093] *Id.* P 1582 (citing MISO Initial Comments at 121-22 ("Further, although these technologies may be evaluated, the technologies identified by the Commission still may not provide the appropriate solution from a planning perspective. Many of the technologies identified are appropriately considered as operational tools or short-term solutions but are not necessarily appropriate for planning to support a particular generator interconnection.") (citation omitted)).

[1094] *Id.* PP 1582, 1584.

and time savings and to determine whether, in the transmission provider's sole discretion, an alternative transmission technology should be used as a solution — consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements.[1095] The Commission found that it is appropriate to continue to rely on transmission providers to use good utility practice, applicable reliability standards, and other applicable regulatory requirements, in their evaluations of alternative transmission technologies, including the enumerated list, because the specific evaluation may depend on the transmission provider's individual transmission system, cluster makeup, and other factors.[1096]

597. The Commission explained that the transmission provider must determine whether using any of the enumerated alternative transmission technologies is an appropriate and reliable network upgrade "that would allow the interconnection customer to flow the output of its generating facility onto the transmission provider's transmission system in a safe and reliable manner."[1097] The Commission further explained that the requirement to

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[1095] *Id.* PP 1584, 1587, 1589.

[1096] *Id.* P 1589 (adding that "the transmission provider— consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements — retains the sole discretion to determine whether a particular technology in the enumerated list of alternative transmission technologies is appropriate and reliable as a network upgrade, or not, for a given cluster.").

[1097] *Id.* P 1582 (citing Order No. 2003, 104 FERC ¶ 61,103 at P 767 ("Both Energy Resource Interconnection Service and Network Resource Interconnection Service provide for the construction of Network Upgrades that would allow the Interconnection Customer to flow the output of its Generating Facility onto the Transmission Provider's

make such a determination before allowing for the use of the enumerated alternative transmission technologies addresses concerns that their use may impinge on reliability, delay network upgrades instead of reducing the need for them or obviating the need for them altogether, or fail to address all transmission system issues that a traditional network upgrade would address. The Commission recognized the need to avoid time-consuming delays and costly disputes or litigation over interconnection costs that could arise as a result of this reform.[1098] Therefore, the Commission found that, if a transmission provider evaluates the enumerated alternative transmission technologies as required herein and, in its sole discretion, determines not to use any enumerated alternative transmission technologies as an alternative to a traditional network upgrade, the transmission provider has complied with Order No. 2023, including tariffs filed pursuant thereto.

Transmission System in a safe and reliable manner"); Order No. 2003-A, 106 FERC ¶ 61,220 at P 404; *pro forma* LGIA art. 9.3 ("Transmission Provider shall cause the Transmission System and the Transmission Provider's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this LGIA"); *Midwest Indep. Transmission Sys. Operator, Inc.*, 138 FERC ¶ 61,233, at P 190, *reh'g denied*, 139 FERC ¶ 61,253, *partial reh'g granted on other grounds*, 150 FERC ¶ 61,035). *See also pro forma* LGIA art. 9.4 ("Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA")).

[1098] Order No. 2023, 184 FERC ¶ 61,054 at P 1587 (citing SPP Initial Comments at 26 ("Even though the Commission has stated that transmission providers retain the discretion regarding whether to use such technologies, the very fact that the transmission provider is required to evaluate them will lead to disputes if the transmission provider then exercises that discretion.")).

598. The Commission explained that transmission providers are required to include an explanation of the results of the evaluation of the required alternative transmission technologies for feasibility, cost, and time savings as an alternative to a traditional network upgrade in the applicable study report.[1099] The Commission found the required explanation of the results of the transmission provider's evaluation included in the applicable study report provides sufficient transparency without placing a further burden on transmission providers that would delay the processing of interconnection requests.

ii. Requests for Rehearing and Clarification

599. SPP seeks rehearing of the requirement for transmission providers to evaluate certain enumerated alternative transmission technologies in the interconnection study process because SPP argues that this requirement will burden transmission providers and lengthen the interconnection process.[1100] SPP also asserts that the Commission does not provide adequate guidance on what metrics would be sufficient to support the use or non-use of a specific alternative technology, which SPP contends will invite litigation from interconnection customers and further lengthen the interconnection process. WATT Coalition also contends that, to comply with the FPA, the Commission must grant rehearing to set a meaningful standard for evaluation and ensure that alternative

[1099] *Id.* P 1590.

[1100] SPP Rehearing Request at 19.

transmission technologies are used if they are the most cost-effective and fastest interconnection upgrade solution.[1101]

600. PJM asks the Commission to clarify that Order No. 2023's requirement for transmission providers to explain their evaluation of the enumerated alternative transmission technologies in their cluster study reports does not apply when a transmission provider already includes all the enumerated technologies in its studies.[1102] PJM argues that this reporting requirement is administratively burdensome with no corresponding benefit because PJM already studies all of the enumerated technologies in its interconnection process. PJM also asserts that Order No. 2023's requirement that transmission providers evaluate the enumerated alternative transmission technologies will be burdensome because interconnection customers are likely to demand re-evaluation of the technologies.

601. Clean Energy Associations, Public Interest Organizations, and WATT Coalition request rehearing of Order No. 2023's requirement that transmission providers have sole discretion over the evaluation and use of an enumerated alternative transmission technologies.[1103] Public Interest Organizations argue that Order No. 2023's requirement

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[1101] WATT Coalition Rehearing Request at 24.

[1102] PJM Rehearing Request at 45-46.

[1103] Clean Energy Associations Rehearing Request at 48; Public Interest Organizations Rehearing Request at 13-15; WATT Coalition Rehearing Request at 1-2, 14-15, 24-30.

that transmission providers' decisions be consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements is vague and will allow transmission providers to reject the enumerated alternative transmission technologies, even when studies demonstrate them to be lower cost and faster than traditional network upgrades.[1104] Public Interest Organizations further argue that, because transmission providers have sole discretion over implementing the enumerated alternative transmission technologies, the study process will be a mere formality that allows the transmission provider to reject an enumerated alternative transmission technology, even if its own studies have demonstrated that they are the least cost and/or fastest solutions. Public Interest Organizations contend that requiring traditional network upgrades when a transmission provider's own study has found that an enumerated alternative transmission technology would be cheaper and/or faster imposes excessive costs on consumers, leading to unjust and unreasonable rates, and unduly discriminates against providers of alternative transmission technologies.

602. Clean Energy Associations contend that giving transmission providers sole discretion insulates transmission providers from challenges to inadequate evaluations or unjustified adoption decisions.[1105] Clean Energy Associations assert that, absent some form of review and recourse, transmission providers might only cursorily evaluate

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[1104] Public Interest Organizations Rehearing Request at 13-15.

[1105] Clean Energy Associations Rehearing Request at 46-48.

alternative transmission technologies and interconnection customers will have no opportunity to respond to unjust and unreasonable charges. Clean Energy Associations argue that the FPA requires a more nuanced analysis than Order No. 2023's requirement that determinations be consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements. Clean Energy Associations ask the Commission to allow challenges to the transmission provider's evaluation of the enumerated alternative transmission technologies as a means to ensure meaningful consideration of these technologies.

603. WATT Coalition argues that Order No. 2023 unlawfully gives transmission providers unfettered discretion to disregard and disadvantage alternative transmission technologies as network upgrades.[1106] WATT Coalition argues that the Commission undermined its decision to provide a pre-defined list of alternative transmission technologies evaluated as a matter of course in every cluster study by failing to require meaningful consideration of alternative transmission technologies and by placing alternative transmission technologies at an artificial disadvantage to "traditional" network upgrades.[1107] WATT Coalition asserts that enshrining a preferential advantage for more expensive and longer lead-time traditional network upgrades, at the expense of more efficient, cost-effective, and quicker solutions, will increase rates and slow down the

[1106] WATT Coalition Rehearing Request at 1-2, 14 (arguing that Order No. 2023 violates APA section 706(2)(A)).

[1107] *Id*. at 24-25 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1585).

interconnection process. WATT Coalition points to dynamic line ratings' ability to resolve a thermal overload, rather than spending $50 million on a line rebuild, to demonstrate that requiring a traditional network upgrade would unduly discriminate against interconnection customers and in favor of transmission providers, impose excessive costs on interconnection customers (and ultimately consumers), and work against Order No. 2023's goal of making the interconnection process more efficient. WATT Coalition argues that, contrary to the FPA, the Commission has deprived interconnection customers of the opportunity to interconnect at a just and reasonable rate and unduly discriminates against interconnection customers to the benefit of transmission providers.

604. WATT Coalition questions the Commission's reliance on MISO's initial comments as ground for allowing transmission providers to use their sole discretion consistent with "good utility practice" and "applicable regulatory standards."[1108] WATT Coalition argues that MISO's comments merely quoted the NOPR, which suggested that the use of alternative transmission technologies may not meet these standards, without providing justification. WATT Coalition contends that requiring transmission providers to "use good utility practice, applicable reliability standards, and other applicable regulatory requirements" is insufficient because making such a determination is not the same as determining whether that decision is consistent with the FPA, which is a

[1108] *Id*. at 26.

transmission provider's most fundamental responsibility.[1109] WATT Coalition argues that the Commission made no attempt to explain whether it believes satisfying those standards will, in all cases, produce a lawful result under the FPA.[1110] WATT Coalition argues that the Commission has no authority to grant transmission providers the ability to unduly discriminate or implement a rate that is unjust and unreasonable.[1111] WATT Coalition asserts that the Commission's failure to explain and support that decision violates the APA.[1112]

605. WATT Coalition adds that Order No. 2023 deprives interconnection customers of a meaningful opportunity to inform the evaluations and appears to close off any input or challenge to transmission provider evaluation.[1113] WATT Coalition asks the Commission to grant rehearing to allow interconnection customers to engage in the transmission provider's alternative transmission technologies evaluations and ensure that they are both technically sound and consistent with the FPA. WATT Coalition suggests allowing either the interconnection customer or the transmission provider to request such an evaluation at any point during the interconnection study process as more information

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[1109] *Id*. at 27 (quoting Order No. 2023, 184 FERC ¶ 61,054 at P 1589).

[1110] *Id*. at 26.

[1111] *Id*. at 27 (quoting Order No. 2023, 184 FERC ¶ 61,054 at P 1589).

[1112] *Id*. at 26.

[1113] *Id*. at 29 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1587).

becomes available. WATT Coalition asks the Commission to allow developers to conduct their own analysis in response to an initial interconnection study result to demonstrate that a FERC-enumerated technology, or another technology, can reduce interconnection costs or timelines and require transmission providers to evaluate those solutions. WATT Coalition states that interconnection customers' right to register objections and identify deficiencies in a transmission provider's identification of network upgrades in interconnection studies must extend to an interconnection study's evaluation of alternative transmission technologies, not just traditional network upgrades.[1114] WATT Coalition asserts that including interconnection customer input on the evaluation of alternative transmission technologies after the initial phase of the cluster study, with a requirement for the transmission provider's decision regarding deployment to be in line with the FPA, would achieve just and reasonable rates.[1115]

606. If the Commission does not grant rehearing, WATT Coalition requests that the Commission make two clarifications.[1116] First, WATT Coalition asks the Commission to clarify that interconnection customers have the right and opportunity to identify potential deficiencies and errors in a transmission provider's evaluation of alternative transmission technologies in a cluster study, and the transmission provider must address those

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[1114] *Id*. (citing, e.g., MISO Business Practice Manual 015 Section 5.3.1).

[1115] *Id.* at 24, 30.

[1116] *Id*. at 30.

potential deficiencies and errors in its cluster study report. WATT Coalition states that the Commission must correct the implication that a transmission provider's evaluation and determination to deploy or not deploy alternative transmission technologies are immune from challenge by allowing interconnection customers to review the initial evaluation and provide their own analysis to inform the transmission provider's decision. Second, WATT Coalition asks the Commission to clarify that it did not intend to exempt transmission providers' consideration of, and determinations regarding, the use of alternative transmission technologies in a cluster study from compliance with the FPA, making clear that complying with "good utility practice" does not supersede the foundational requirements of the FPA.

607. A number of parties seek rehearing or clarification regarding the technologies included in the list of the enumerated alternative transmission technologies that transmission providers are required to evaluate. SPP asks the Commission to reconsider the inclusion of transmission switching in the list of enumerated alternative transmission technologies, arguing that it is a short-term operational tool that is inappropriate for use in long-term planning applications.[1117] VEIR asks the Commission to clarify the scope of the technologies that are considered advanced conductors under Order No. 2023.[1118] VEIR argues that, although Order No. 2023 does not describe the advanced conductors

[1117] SPP Rehearing Request at 20.

[1118] VEIR Rehearing Request at 3-6.

that must be studied, it is consistent with the Commission's intent and the intent of the Energy Policy Act of 2005 for the Commission to clarify that there are a range of permissible present and future technologies that "significantly increase transmission capacity and allow for the interconnection of new generating facilities without the construction of new network upgrades."[1119] VEIR contends that this clarification will help ensure that Commission regulations will help stimulate innovation -- rather than freeze it within the confines of an existing set of technologies -- consistent with the Commission's overall mandate that alternative transmission technologies be considered by transmission providers seeking to provide reliable transmission solutions in the most cost effective manner. VEIR adds that this clarification will ensure that the term "advanced conductors" contemplates a wide-range of present and future transmission line technologies, such as VEIR's technology, whose power flow capacities exceed the power flow capacities of conventional transmission line technologies, thus achieving the

[1119] *Id*. at 4-5 (quoting Order No. 2023, 184 FERC ¶ 61,054 at P 1597 (citing Energy Policy Act of 2005, 42 U.S.C. § 16422(a), (b))). VEIR points to several definitions of advanced conductors: (1) advanced conductor technology include advanced composite conductors high temperature low-sag conductors, and fiber optic temperature sensing conductors, 42 U.S.C. § 16422(a); (2) advanced conductors and cables include advanced overhead conductors that are facilities that "employ advanced aluminum alloys, steel, and composite material in novel ways that provide enhanced performance over conventional overhead conductors," advanced-transmission-technologies-report (energy.gov), at p. 26, and (3) advanced conductors and cables are "superconducting cables" composed of materials that have near zero resistance at extremely low temperatures, offering little to no electrical losses if used in transmission, advanced-transmission-technologies-report (energy.gov), at p. 26.

Commission's objectives for transmission providers to evaluate technologies that are deployed more quickly and at a lower cost than other network upgrades.[1120]

608. Clean Energy Associations and WATT Coalition request rehearing of Order No. 2023's exclusion of dynamic line ratings from the enumerated list of alternative transmission technologies.[1121] WATT Coalition claims that the Commission excluded dynamic line ratings, while retaining four other technologies in the NOPR and adding four that were not included in the NOPR, without a reasoned basis for why dynamic line ratings provided less relative potential to be useful in reducing interconnection costs.[1122] WATT Coalition argues that it is arbitrary and capricious and contrary to law to exclude dynamic line ratings on the basis that they "may" not be as beneficial, while at the same time conceding that other technologies that were included on the list have certain limitations that render them no more or less useful than dynamic line ratings. WATT Coalition states that dynamic line ratings are regularly a cost-effective solution in generator interconnection. WATT Coalition claims that its comments on the value of dynamic line ratings in planning, including interconnection, and statements in support of

[1120] VEIR Rehearing Request at 5-6.

[1121] Clean Energy Associations Rehearing Request at 44; WATT Coalition Rehearing Request at 1-31.

[1122] WATT Coalition Rehearing Request at 13-14 (citing Order No. 2023, 184 FERC ¶ 61,054 at PP 1578, 1598).

dynamic line ratings are not addressed in the Commission's reasoning.[1123] WATT Coalition states that the only citation the Commission provided to support its determination to exclude dynamic line ratings refers only to the few adverse comments submitted by PJM Transmission Owners, ISO-NE, NYTOs, PacifiCorp, Tri-State, and the Chamber of Commerce.[1124] WATT Coalition argues that the Commission did not address the Environmental Defense Fund's argument that excluding dynamic line ratings is not consistent with transmission providers' least-cost obligation and concerns about technology implementation do not warrant failing to consider alternative transmission technologies.[1125] Clean Energy Associations assert that the Commission's general justification that alternative transmission technology could decrease network upgrade costs, withdrawals, and restudies, which increases the efficiency of the interconnection process, applies to dynamic line ratings, arguing that the Commission acknowledges that dynamic line ratings could be beneficial to the interconnection process.[1126]

[1123] *Id*. at 19-20 (citing WATT Coalition Reply Comments at 7-15, 16-17).

[1124] *Id*. at 20 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1598 (citing PJM Transmission Owners Initial Comments at 56; ISO-NE Initial Comments at 41; NYTOs Initial Comments at 32-33; PacifiCorp Initial Comments at 4; Tri-State Initial Comments at 23; Chamber of Commerce Initial Comments at 12-13)).

[1125] *Id*. at 20-21 (Environmental Defense Fund NOPR Reply Comments at 11-12).

[1126] Clean Energy Associations Rehearing Request at 41.

609. Clean Energy Associations and WATT Coalition contend that the Commission did not address the benefits of dynamic line ratings set forth in the record.[1127] WATT Coalition notes the Commission previously recognized the potential of dynamic line ratings to provide benefits to the interconnection process.[1128] WATT Coalition further notes that, in Order No. 881, the Commission took initial steps to reduce barriers to operational deployment by requiring RTO/ISOs to "establish and implement the systems and procedures necessary to allow transmission owners to electronically update transmission line ratings at least hourly."[1129] WATT Coalition argues that dynamic line

[1127] *Id*. at 40-42; WATT Coalition Rehearing Request at 6-11, 20-21. *See* WATT Coalition Rehearing Request at 6-9 (pointing to use of dynamic line ratings in Europe, Australia and Sweden, including the European Network of Transmission System Operators for Electricity Technopedia rating dynamic line ratings as "system ready for full-scale deployment;"; to the U.S. Canada Power System Outage Task Force recommendation for NERC to use dynamic line ratings to prevent and mitigate outages; to the U.S. Department of Energy support for the deployment of dynamic line ratings in the United States (e.g., the Oncor Electric Delivery Company pilot); to U.S. utilities piloting dynamic line ratings and the 95th Edison Award in 2023 to PPL Electric Utilities for the first operational deployment of dynamic line ratings in the United States, and to the use of dynamic line ratings in the place of a 200MW standalone battery in MISO).

[1128] *Id*. at 9-11 (citing NOPR, 179 FERC ¶ 61,194 at PP 289-290, 294-95; FERC, Grid-Enhancing Technologies, Notice of Workshop, Docket No. AD19-19-000 (Sept. 9, 2019); *Bldg. for the Future Through Elec. Reg'l Transmission Planning & Cost Allocation & Generator Interconnection*, 86 FR 40266 (July 15, 2021), 176 FERC ¶ 61,024 at P 158 (2021)).

[1129] *Id*. at 13 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1598; *Managing Transmission Line Ratings*, Order No. 881, 87 FR 2244 (Jan. 13, 2022), 177 FERC 61,179 at P 251 (2021)).

ratings is a solution that could bring projects into viability if permitted by the transmission owner.[1130]

610. WATT Coalition contends that the Commission has failed to meet its burden to provide an explanation supported by evidence in the record for its suggestion that dynamic line ratings are better applied in operations and planning.[1131] WATT Coalition adds that, because transmission planning and interconnection processes typically use similar or identical study processes (for example, steady state, short circuit, and stability analysis) and share common models of the transmission system representing expected future system conditions such as Summer Peak or High Wind Low Load, it is not logical to expect the consideration of dynamic line ratings to benefit transmission planning and interconnection in a demonstrably different manner.

611. However, WATT Coalition argues that the relative value of dynamic line ratings in interconnection versus transmission planning is irrelevant.[1132] WATT Coalition contends that the Commission made no determination as to the absolute value of dynamic line ratings in the interconnection context, which it argues is the relevant inquiry in determining whether the interconnection reforms are just and reasonable.[1133] WATT

[1130] *Id*. at 9.

[1131] *Id*. at 21-22.

[1132] *Id*. at 22.

[1133] *Id*. at 22-23 (citing *Am. Clean Power Ass'n v. FERC*, 54 F.4th 722 (D.C. Cir. 2022) (finding that the Commission failed to reasonably explain its decision, noting it

Coalition argues that, if dynamic line ratings are highly beneficial in one and extremely beneficial in the other, it should be adopted in both, not excluded from the former.[1134] WATT Coalition adds that the example the Commission gave for why dynamic line ratings may be less beneficial in the interconnection context is flawed. WATT Coalition argues that the assertion that its value "depends on favorable weather and congestion parameters" is wrong. WATT Coalition explains that many lines are chronically underrated, regardless of weather and congestion parameters, "congestion parameters" themselves are often inaccurate precisely because dynamic line ratings are not used on a line.

612. WATT Coalition claims that the following statement in Order No. 2023 is inaccurate and does not reflect the record:

> [W]hile dynamic line ratings may relieve congestion to increase available interconnection service temporarily or in the short-term, they may not be an adequate substitute for building interconnection facilities and/or traditional network upgrades identified through the interconnection study process that are needed to reliably interconnect a generating facility to the transmission system during all hours.[1135]

WATT Coalition states that dynamic line ratings are not a temporary or short-term fix;

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gave short shrift to the Petitioner's concern)).

[1134] *Id*. at 22 (pointing to the background information demonstrating that dynamic line ratings have specific and appreciable value in generator interconnection).

[1135] *Id*. at 23 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1598).

they are a long-term fix for the specific parameters of the cluster study. WATT Coalition explains that, if system conditions change subsequent to the cluster study such that additional investment in the transmission system is needed, that does not mean that the value of dynamic line ratings is diminished. WATT Coalition states that any other alternative transmission technology or even traditional upgrade could see its value change based on system conditions in the same way. WATT Coalition argues that implementing network upgrades when dynamic line ratings would satisfy the identified need will cause overbuilding the system and saddling interconnection customers and consumers with unnecessary costs.

613. WATT Coalition contends that these unnecessary costs mean that the Commission's decision is also contrary to the FPA.[1136] WATT Coalition argues that the Commission has failed to demonstrate that the rates established through this order will be just and reasonable because it lacks justification for the exclusion of dynamic line ratings and fails to respond to the comments arguing that including dynamic line ratings would reduce costs to consumers. WATT Coalition claims that, if the Commission included dynamic line ratings in all studies, all generators would potentially see their interconnection costs reduced and timelines shortened. WATT Coalition argues that, by excluding dynamic line ratings, generators in windy regions especially will be disadvantaged because one of the core solutions for increasing transmission capacity

[1136] *Id.*

rapidly will not be evaluated in their interconnection studies. WATT Coalition notes Advanced Energy Economy's comment that, "[w]hile not all interconnections may benefit from [grid enhancing technologies], evaluating their use at every opportunity ensures that their contributions and savings will not be lost."[1137] WATT Coalition contends that the Commission erred by instead ensuring that dynamic line ratings' contributions and savings will be lost, interconnection customers will pay vastly higher costs for network upgrades, and consumers ultimately will pay higher rates as a result.[1138]

614. Clean Energy Associations request rehearing of Order No. 2023's exclusion of energy storage serving as a transmission asset from the enumerated list of alternative transmission technologies.[1139] Clean Energy Associations argue that excluding storage resources because "the evaluation of whether a storage resource performs a transmission function requires a case-by-case analysis" does not constitute reasoned decision-making because the Commission directs the transmission providers to conduct a case-by-case evaluation of the alternative transmission technologies included in Order No. 2023's list of enumerated technologies.[1140] Clean Energy Associations assert that, without a specific requirement to evaluate dynamic line ratings and energy storage, these technologies will

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[1137] *Id*. (citing Advanced Energy Economy NOPR Reply Comments at 41-42).

[1138] *Id.* at 23-24.

[1139] Clean Energy Associations Rehearing Request at 44.

[1140] *Id*. at 42-43 (citing Order No. 2023, 184 FERC ¶ 61,054 at PP 1582, 1584).

be excluded from the interconnection process despite the record demonstrating that these technologies can improve interconnection process efficiency.[1141]

iii. Determination

615. We are not persuaded by SPP's request to revisit the requirement to evaluate the enumerated list of alternative transmission technologies, which SPP argues will burden transmission providers and lengthen the interconnection process. As explained in Order No. 2023, the Commission found that the record supported a finding that these alternative transmission technologies can provide benefits to optimize the transmission system in specific scenarios.[1142] SPP has not convinced us otherwise. We also find it unnecessary to provide metrics for determining what would support the use, or non-use of, an alternative transmission technology to avoid litigation and lengthening the interconnection process, as SPP requests. In Order No. 2023, the Commission recognized the need to avoid time-consuming delays and costly disputes or litigation over interconnection costs that could arise as a result of this reform.[1143] Consequently, the Commission found that, if a transmission provider evaluates the enumerated alternative

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[1141] *Id*. at 43-44.

[1142] Order No. 2023, 184 FERC ¶ 61,054 at P 1583 (citing NOPR, 179 FERC ¶ 61,194 at PP 294-295).

[1143] *Id*. P 1587 (citing SPP Initial Comments at 26 ("Even though the Commission has stated that transmission providers retain the discretion regarding whether to use such technologies, the very fact that the transmission provider is required to evaluate them will lead to disputes if the transmission provider then exercises that discretion.")).

transmission technologies as required herein and, in its sole discretion, determines not to use any enumerated alternative transmission technologies as an alternative to a traditional network upgrade, the transmission provider has complied with Order No. 2023, including tariffs filed pursuant to Order No. 2023. Similarly, we disagree with WATT's contention that Order No. 2023 does not set a standard for evaluation and does not ensure that alternative transmission technologies are used if they are the most cost-effective and fastest interconnection upgrade solution. In Order No. 2023, as modified below, the Commission set forth the standard for evaluation, explaining that the requirement is to evaluate the enumerated alternative transmission technologies in the interconnection process for feasibility, cost, and time savings and to determine whether, in the transmission provider's sole discretion, an alternative transmission technology should be used as a solution — consistent with good utility practice, applicable reliability standards, and applicable laws and regulations.[1144] This standard will ensure transmission providers identify network upgrades in a manner that ensures just and reasonable rates.

616. We deny PJM's requested clarification about whether Order No. 2023 requires transmission providers that already include all the enumerated technologies in its studies to explain their evaluation of the enumerated alternative transmission technologies in their cluster study reports. Consistent with the Commission's statements in Order No. 2023, transmission providers may explain specific circumstances on compliance and

[1144] *Id*. PP 1578, 1579, 1581, 1587, 1590.

justify why any deviations are either consistent with or superior to the *pro forma* LGIP or merit an independent entity variation in the context of RTOs/ISOs.[1145]

617. We disagree with PJM that the requirement in Order No. 2023 for transmission providers to evaluate the enumerated alternative transmission technologies will be burdensome because interconnection customers are likely to demand re-evaluation of the technologies. The Commission determined that, if a transmission provider evaluates the enumerated alternative transmission technologies as required herein and, in its sole discretion, determines not to use any enumerated alternative transmission technologies as an alternative to a traditional network upgrade, and explains its evaluation of the enumerated alternative transmission technologies in the applicable study report(s), the transmission provider has complied with Order No. 2023, including tariffs filed pursuant thereto. We continue to find that these limitations on review address concerns about time-consuming delays and costly disputes or litigation.

618. In response to Clean Energy Associations', Public Interest Organizations', and WATT Coalition's requests for rehearing regarding transmission provider discretion, we sustain the discretion that Order No. 2023 affords transmission providers in determining whether to use an alternative transmission technology for several reasons. First, we continue to find that this level of discretion is justified because (1) the transmission provider is responsible for determining whether using any of the enumerated alternative

[1145] *Id*. P 1764.

transmission technologies is an appropriate and reliable network upgrade that allows the interconnection customer to flow the output of its generating facility onto the transmission provider's transmission system in a safe and reliable manner;[1146] (2) the requirement to make such a determination before allowing for the use of the enumerated alternative transmission technologies addresses concerns that their use may impinge on reliability, delay network upgrades instead of reducing the need for them or obviating the need for them altogether, or fail to address all transmission system issues that a traditional network upgrade would address;[1147] and (3) there is a need to avoid time-consuming delays and costly disputes or litigation over interconnection costs that could arise as a result of this reform.[1148]

619. Second, contrary to WATT Coalition's and Clean Energy Associations' assertions, Order No. 2023 does not give transmission providers unfettered discretion to disregard alternative transmission technologies. In spite of the discretion provided to transmission providers, they must explain their evaluation of the enumerated alternative transmission technologies for feasibility, cost, and time savings as an alternative to a traditional network upgrade in their applicable study report(s), and their use determinations must be consistent with good utility practice, applicable reliability standards, and applicable laws

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[1146] *Id.* P 1589.

[1147] *Id.* P 1587.

[1148] *Id*. P 1764.

and regulations.[1149] An interconnection customer may contest a transmission provider's evaluation and use determination, just as it does with respect to traditional network upgrades.[1150] This ensures that the transmission provider's explanation of its evaluation of the enumerated alternative transmission technologies for feasibility, cost, and time savings as an alternative to a traditional network upgrade in its applicable study report(s) as well as its determinations regarding the use of a network upgrade and/or an alternative transmission technology are consistent with the FPA and the transmission provider's tariff.

620. Finally, the level of discretion that Order No. 2023 affords transmission providers is consistent with the general discretion the Commission affords transmission providers to maintain a reliable system.[1151] The transmission provider is the only entity responsible

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[1149] *See infra* PP 621-627625.

[1150] *See, e.g.*, *Sw. Power Pool, Inc.*, 171 FERC ¶ 61,068, *order on reh'g*, 172 FERC ¶ 61,286 (2020).

[1151] Order No. 2003-A, 106 FERC ¶ 61,220 at P 404; *pro forma* LGIA art. 9.3 ("Transmission Provider shall cause the Transmission System and the Transmission Provider's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this LGIA"); *Interconnection for Wind Energy*, 111 FERC ¶ 61,353, at P51, *reh'g granted in part on other grounds*, 113 FERC ¶ 61,254 (2005) ("because the Transmission Provider is responsible for the safe and reliable operation of its transmission system (pursuant to NERC and regional reliability council standards), it is in the best position to establish if reactive power is needed in individual circumstances"); *Big Sandy Peaker Plant, LLC v. PJM Interconnection, L.L.C.*, 154 FERC ¶ 61,216, at P 50 (2016) (the Commission gives "reliability-related discretion to [ISOs], and [will] not second-guess their decisions in that regard").

for determining appropriate and reliable network upgrades for its transmission system. Applying this general interconnection *status quo ante* to the determination of whether an alternative transmission technology could serve as a network upgrade inevitably means that the transmission provider is the only entity responsible for determining "whether using any of the enumerated alternative transmission technologies is an appropriate and reliable network upgrade 'that would allow the interconnection customer to flow the output of its generating facility onto the transmission provider's transmission system in a safe and reliable manner.'"[1152] In fact, the transmission provider may be subject to penalties if its transmission system does not function in a reliable manner as required by the provisions of the Reliability Standards.[1153] Thus, Commission precedent supports a finding that the transmission provider is the entity with sole discretion as to which network upgrades must be constructed to ensure the safe and reliable operation of the transmission system as a new generating facility interconnects.[1154] The term "sole

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[1152] Order No. 2023, 184 FERC ¶ 61,054 at PP 1582, 1584, 1589.

[1153] *See, e.g.*, Reliability Standard TOP-001-5, "Transmission Operations," which requires each Transmission Operator to act to maintain the reliability of its Transmission Operator Area; *see also Interconnection for Wind Energy*, 113 FERC ¶ 61,254, at P 42 (2005) ("Transmission Providers are required to complete a detailed System Impact Study, and are required to ensure that NERC reliability standards are met in all instances.").

[1154] Order No. 2023, 184 FERC ¶ 61,054 at P 1582 (citing Order No. 2003, 104 FERC ¶ 61,103 at P 767; Order No. 2003-A, 106 FERC ¶ 61,220 at P 404; *pro forma* LGIA arts. 9.3, 9.4).

discretion" does not absolve the transmission provider from making a use determination that is consistent with the FPA and its tariff.

621. We sustain the performance standards that Order No. 2023 applies to a transmission provider's evaluation of each alternative transmission technology listed in *pro forma* LGIP section 7.3 and *pro forma* SGIP sections 3.3.6 and 3.4.10 and to its determination whether it should be used. Specifically, Order No. 2023 requires that a transmission provider evaluate each alternative transmission technology listed in *pro forma* LGIP section 7.3 and *pro forma* SGIP sections 3.3.6 and 3.4.10 and determine whether it should be used "consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements."[1155] Order No. 2023 also adopted corresponding modifications to the *pro forma* LGIP and *pro forma* SGIP. Below, we discuss further modifications to these *pro forma* documents.

622. As discussed above, Order No. 2023 requires transmission providers to conduct their alternative transmission technology evaluations and use determinations consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements. We address each performance standard in turn. First, we disagree with

[1155] *Id*. PP 1578, 1580, 1582, 1584, 1587, 1589. Below, we discuss modifying this standard to refer to "applicable laws and regulations" rather than "other applicable regulatory requirements." *See infra* PP 624, 626-627624.

Public Interest Organizations that "good utility practice" is vague or ambiguous because that term is defined in the *pro forma* LGIP[1156] and the *pro forma* SGIP.[1157]

623. Second, we disagree with Public Interest Organizations that "applicable reliability standards" is vague or ambiguous because that term is defined in the *pro forma* LGIP.[1158] We note, however, that, unlike the *pro forma* LGIP, "applicable reliability standards" is not defined in the *pro forma* SGIP. Therefore, consistent with the definition in the *pro forma* LGIP and Order No. 2023, we modify the *pro forma* SGIP to define "Applicable Reliability Standards" as "the requirements and guidelines of the Electric Reliability Organization and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected."[1159] We also find that the words "applicable reliability standards" were inadvertently not included in the performance standards that Order No. 2023 added to *pro forma* LGIP section 7.3 and *pro forma* SGIP sections 3.3.6 and 3.4.10. Therefore, we include that term in those *pro forma* sections now.

624. Finally, we find that the use of the catchall phrase "*other applicable regulatory requirements*" is vague or ambiguous. Unlike the two standards discussed above, this

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[1156] *Pro forma* LGIP section 1 (Definitions).

[1157] *Pro forma* SGIP attach. 1 (Glossary of Terms).

[1158] *Pro forma* LGIP section 1 (Definitions).

[1159] *See id.*

phrase is not defined in either the *pro forma* LGIP or the *pro forma* SGIP. In order to remedy this deficiency, we modify Order No. 2023 to replace "other applicable regulatory requirements" with the term "applicable laws and regulations," which is a defined term in the *pro forma* LGIP. We note, however, that, unlike the *pro forma* LGIP, "applicable laws and regulations" is not defined in the *pro forma* SGIP. Therefore, consistent with the definition in the *pro forma* LGIP and Order No. 2023, we modify the *pro forma* SGIP to define "applicable laws and regulations" as "all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority."[1160] We also modify *pro forma* LGIP section 7.3 and *pro forma* SGIP sections 3.3.6 and 3.4.10 to reflect this change in terminology.

625. Finally, we find that, although Order No. 2023 applies the performance standards to both the transmission provider's evaluation of the enumerated alternative transmission technologies *and* the determination to use the technology,[1161] *pro forma* LGIP section 7.3 does not apply the standards to the former. We therefore modify *pro forma* LGIP section 7.3 to remedy this deficiency.

[1160] *See id.*

[1161] Order No. 2023, 184 FERC ¶ 61,054 at P 1589.

626. Based on these findings, we modify *pro forma* LGIP section 7.3, in relevant part, as follows: "Transmission Provider shall *evaluate each identified alternative transmission technology and* determine whether the above technologies should be used, consistent with Good Utility Practice, *Applicable Reliability Standards,* and [other applicable regulatory requirements]*Applicable Laws and Regulations*."

627. We also modify *pro forma* SGIP sections 3.3.6 and 3.4.10, in relevant part, as follows: "Transmission Provider shall evaluate each identified alternative transmission technology and determine whether it should be used, consistent with Good Utility Practice, *Applicable Reliability Standards,* and [other applicable regulatory requirements]*Applicable Laws and Regulations*."

628. We disagree with Clean Energy Associations, Public Interest Organizations and WATT Coalition that requiring a transmission provider to evaluate the list of enumerated alternative transmission technologies and determine the use of those technologies consistent with these performance standards will negatively impact an interconnection customer's ability to challenge a transmission provider's actions. As explained above, the performance standards applied in this context are the same as, or similar to, those that apply to other sections of the *pro forma* LGIP and *pro forma* SGIP. Therefore, the use of these performance standards in this context does not in and of itself change an interconnection customer's ability to challenge a transmission provider's conduct. As discussed above, an interconnection customer may challenge a transmission provider's evaluation of the enumerated alternative transmission technologies and its determination about whether to use alternative transmission technologies as it can challenge other

conduct in the *pro forma* LGIP and *pro forma* SGIP that is allegedly inconsistent with the performance standards.[1162]

629. We do not believe that WATT's suggestion to allow an interconnection customer to provide input on the evaluation of alternative transmission technologies after the initial phase of the cluster study within the *pro forma* LGIP is necessary. The existing interconnection procedures already provide the opportunity for interconnection customer input with respect to all aspects of a cluster study after the cluster study report is completed, which necessarily provides an opportunity for input as to the evaluation of the enumerated alternative transmission technologies. Specifically, *pro forma* LGIP section 7.4 provides that, "[w]ithin ten (10) Business Days of simultaneously furnishing a Cluster Study Report to each Interconnection Customer within the Cluster and posting such report on OASIS, Transmission Provider shall convene a Cluster Study Report Meeting." *Pro forma* LGIP section 7.5 provides a similar opportunity for input after the completion of a cluster restudy report. WATT Coalition does not explain how an additional opportunity to provide input after the initial phase of a cluster study would be beneficial and ensure just and reasonable rates. We find that, to the contrary, WATT's request for an additional opportunity to provide input would slow down the interconnection process, which would undermine the Commission's efforts to ensure a reliable, efficient, transparent, and timely interconnection process.

[1162] *See supra* P 619.

630. We address in turn rehearing parties' requests for rehearing and/or clarification related to the list of enumerated alternative transmission technologies in Order No. 2023. We are not persuaded by SPP's request to reconsider the inclusion of transmission switching in the list of enumerated alternative transmission technologies. While transmission switching may be used more often in short-term, operational timeframes, we continue to find that it is just and reasonable to include transmission switching on the list of technologies that transmission providers are required to evaluate because it could provide topology solutions that relieve transmission constraints for the duration of the requested interconnection service and does not rely only on transient conditions. As discussed above, Order No. 2023 did not create a presumption in favor of substituting alternative transmission technologies for necessary traditional network upgrades, either categorically or in specific cases.[1163]

631. We are persuaded by VEIR's arguments raised on rehearing and clarify that there are a range of permissible present and future advanced conductor technologies that fall within this class of technologies that transmission providers are required to evaluate pursuant to Order No. 2023. We agree that this clarification will ensure that the term "advanced conductors" includes present and future transmission line technologies whose power flow capacities exceed the power flow capacities of conventional transmission line technologies, thus achieving the Commission's objectives in Order No. 2023. Consistent

[1163] Order No. 2023, 184 FERC ¶ 61,054 at PP 1582, 1584.

with VEIR's request for clarification, we further clarify that advanced conductors are advanced relative to conventional aluminum conductor steel reinforced conductors and include, but are not limited to, superconducting cables, advanced composite conductors, high temperature low-sag conductors, fiber optic temperature sensing conductors, and advanced overhead conductors.[1164]

632. We sustain the Commission's decision in Order No. 2023 not to include dynamic line ratings in the enumerated list of alternative transmission technologies that a transmission provider must evaluate. In Order No. 2023, the Commission properly exercised its discretion to determine just and reasonable rates and balanced various factors to establish a list of alternative transmission technologies that transmission providers are required to evaluate.[1165] Specifically, the Commission balanced two competing objectives in its effort to ensure just and reasonable rates: (1) the speed of interconnection queue processing times and (2) the cost and the speed at which network upgrades can be constructed. In particular, the Commission recognized that evaluating the enumerated alternative transmission technologies in the cluster studies has the potential to identify network upgrade solutions that are cheaper and faster to construct

[1164] *See* VEIR Rehearing Request at 3-6 (citing 42 U.S.C. § 16422(a); U.S. Department of Energy December 2020 Report (Advanced Transmission Technologies)).

[1165] Order No. 2023, 184 FERC ¶ 61,054 at P 1586.

but, all else equal, may also increase interconnection study processing times by increasing the scope and complexity of the cluster studies.[1166]

633. The list of alternative transmission technologies enumerated in Order No. 2023 that transmission providers must evaluate includes those technologies that can serve as network upgrade solutions even in high stress conditions and scenarios in which weather conditions are less favorable. Unlike the alternative transmission technologies on the list, dynamic line ratings are dependent on weather conditions (e.g., wind speed and direction and solar irradiance level). If weather conditions change, the interconnection customer and the load reliant on that interconnection customer are both at risk of the interconnection customer's energy not being deliverable during real-time operations. Given that interconnection studies for NRIS incorporate a range of simulations assuming worst-case conditions,[1167] worst-case line rating input assumptions are appropriate in this context as inputs to interconnection studies, as explained further below. Because dynamic line ratings use non-worst case scenario input assumptions, it is not arbitrary and capricious to exempt dynamic line ratings from the enumerated list of technologies that must be considered in interconnection studies.

[1166] We acknowledge that the Commission found that "in some cases transmission providers may be able to rapidly determine if a certain enumerated alternative transmission technology is inappropriate for further study." *See id.* P 1590. In such instances, the transmission provider would be able to exclude dynamic line ratings as a possible solution for certain reliability violations identified in the cluster study. In so doing, interconnection queue processing times would be unaffected.

[1167] Order No. 2003-A, 106 FERC ¶ 61,220 at P 500.

634. WATT Coalition further asserts that line ratings in interconnection studies are chronically underrated, and that, without dynamic line ratings, lower wind assumptions are used, causing transmission lines to be rated lower in planning studies. This assertion does not properly address how transmission providers conduct interconnection studies. Under the current approach to interconnection studies, which the Commission did not fundamentally change in Order No. 2023, transmission providers study requests for NRIS using line ratings that assume worst case inputs in order to ensure reliability under the most restrictive operating conditions anticipated to occur.[1168]

635. We also disagree that the evaluation of potential benefits of dynamic line ratings in transmission planning and interconnection should be analogous. Operational studies, transmission planning studies, and interconnection studies have distinct goals. The objective of an interconnection study, which is inherently a type of reliability study, is to identify interconnection facilities and/or traditional network upgrades that are needed to safely and reliably interconnect a generating facility to the transmission system.[1169] Contrary to WATT Coalition's assertion, there is limited record evidence that dynamic line ratings are well-suited to meeting the reliability goals of interconnection studies, and several commenters express concerns that dynamic line ratings cannot reliably serve as

[1168] *Id.*

[1169] *See, e.g.*, LGIP section 7.3 ("[t]he [c]luster [s]tudy shall evaluate the impact of the proposed interconnection on the reliability of the [t]ransmission [s]ystem.").

network upgrades.[1170] In particular, dynamic line ratings only alter line ratings as operational conditions, such as wind speed and direction or solar irradiance level, warrant as forecasted over a particular timeframe. Therefore, dynamic line ratings cannot guarantee that an increased line rating will be available at any particular time, including times of system stress such as those studied to evaluate the reliability impact of an interconnection request.

636. In terms of evidence, WATT Coalition provides instances in which dynamic line ratings have been studied as a pilot project or have been used in operations and some theoretical examples of how dynamic line ratings can raise line ratings and thus could be helpful in interconnection; however, WATT Coalition does not provide evidence that interconnection studies have relied upon dynamic line ratings in the place of a network upgrade to resolve potential reliability violations. We are not persuaded by the examples that WATT Coalition uses as the basis for its rehearing request for both procedural and substantive reasons. First, WATT Coalition provides a few examples for the first time on rehearing that could have been provided earlier in the proceeding, which is impermissible under the Commission's precedent.[1171]

[1170] Order No. 2023, 184 FERC ¶ 61,054 at P 1545 (citing AECI Initial Comments at 9; AEP Initial Comments at 51; Avangrid Initial Comments at 36; Southern Initial Comments at 29; U.S. Chamber of Commerce Initial Comments at 12).

[1171] *See supra* PP 386, 609 n.11451127.

637. Second, substantively, WATT Coalition's reliance on the scenarios is also misplaced. In particular, in the case of high-wind scenarios cited by WATT Coalition, it is possible that a dynamic line rating studied in lieu of a traditional network upgrade would be able to resolve a thermal overload in a high-wind scenario. However, under NRIS, "[t]ransmission [p]roviders must study the [t]ransmission [s]ystem at peak load, under a variety of severely stressed conditions to determine whether, with the [g]enerating [f]acility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load, consistent with [t]ransmission [p]rovider's reliability criteria and procedures."[1172] As a weather dependent technology, if there are thermal overloads or other contingencies not connected to a high-wind scenario, dynamic line ratings cannot necessarily ensure the needed local area deliverability to the aggregate of load.[1173]

638. We are also not persuaded by WATT Coalition's contention that Order No. 2023's statements that dynamic line ratings may relieve congestion by increasing available interconnection capacity only temporarily or in the short-term are incorrect and that,

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[1172] Order No. 2003-A, 106 FERC ¶ 61,220 at P 500 (also stating that, "[h]owever, [NRIS] does not necessarily provide the [i]nterconnection [c]ustomer with the capability to physically deliver the output of its [g]enerating [f]acility to any particular load without incurring congestion costs. Nor does [NRIS] convey a right to deliver the output of the [g]enerating [f]acility to any particular customer.").

[1173] *Id.* *See also* Order No. 881, 177 FERC ¶ 61,179 at P 35 (explaining that "while current transmission line rating practices usually understate transfer capability, they can also overstate transfer capability…").

instead, dynamic line ratings are a long-term solution for the specific parameter of the cluster study. The issue is not whether dynamic line ratings can provide additional transmission capacity at a specific point in time; rather, the issue is whether, as a weather dependent technology, they can be relied upon to replace the need for a different network upgrade by ensuring the necessary local area deliverability to the aggregate of load if there are thermal overloads or other contingencies not connected to a high-wind scenario. Moreover, because transmission providers generally consider worst-case scenarios in interconnection studies, such transmission providers would still have to use worst-case line rating input assumptions, which are typically the seasonal line rating (assuming high air temperature, full sun, and low or no wind) on a system using dynamic line ratings, not the highest dynamic rating that would apply in more favorable conditions (e.g., low air temperature, no sun, strong sustained winds). For these reasons, WATT Coalition's rehearing arguments do not refute Order No. 2023's finding that dynamic line ratings "may be less beneficial in the interconnection context."[1174] As explained above, in Order No. 2023, the Commission balanced various factors (i.e., the potential benefits of studying the technology with the burden on the transmission provider and the increase in study times) and established a list of alternative transmission technologies that are most likely to ensure just and reasonable rates.[1175]

[1174] WATT Coalition Rehearing Request at 21-23 (quoting Order No. 2023, 184 FERC ¶ 61,054 at P 1598).

[1175] Order No. 2023, 184 FERC ¶ 61,054 at P 1586.

639. We disagree with WATT Coalition's assertion that the Commission did not engage in reasoned decision-making by excluding dynamic line ratings from this enumerated list of alternative transmission technologies. In Order No. 2023, the Commission explained that, because the benefits of evaluating dynamic line ratings did not outweigh the burden and the potential increase in study times, dynamic line ratings were less beneficial than other alternative transmission technologies in the interconnection context and did not include it on the final enumerated list. Regarding the burden, for example, both MISO and the MISO TOs highlighted the additional studies and requirements that an obligation to evaluate dynamic line ratings would impose on the first phase of the interconnection study process.[1176] These entities further highlighted that these additional obligations could also necessitate further debate about the impact that such dynamic line ratings may have on the rest of the transmission system and were in contrast to the need to accelerate the interconnection process. After having determined that the existing *pro forma* LGIP and *pro forma* SGIP are not just and reasonable, the Commission must determine, based on substantial evidence, a replacement rate that is just, reasonable and not unduly preferential.[1177] Thus, the Commission both provided a

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[1176] *Id.* P 1549 (citing MISO TOs Initial Comments at 30; MISO Initial Comments at 11).

[1177] FPA section 206 requires that, when the Commission finds a rate subject to its jurisdiction to be "unjust, unreasonable, unduly discriminatory or preferential, the Commission shall determine the just and reasonable rate, charge, classification, rule, regulation, practice, or contract to be thereafter observed and in force, and shall fix the same by order." 16 U.S.C. § 824e; *see also Del. Pub. Serv. Comm'n v. PJM*

reasoned explanation for excluding dynamic line ratings from the final enumerated list of alternative transmission technologies and established a just and reasonable replacement rate. Further, we note, that the Commission did not "exclude" dynamic line ratings from consideration in cluster studies, as WATT Coalition claims. Order No. 2023 specifically provided that transmission providers are permitted to go beyond the enumerated list and can do so without changing their tariffs.[1178]

640. We are not persuaded by Clean Energy Associations' arguments that energy storage serving as a transmission asset should be included in the enumerated list of alternative transmission technologies. We agree with Clean Energy Associations that energy storage, like other alternative transmission technologies on the list, would need to be evaluated on a case-by-case basis to determine if the technology can serve in the place of a network upgrade. However, we continue to find that, as discussed in Order No. 2023, energy storage requires an *additional* case-by-case analysis that distinguishes it

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Interconnection, L.L.C, 166 FERC ¶ 61,161, at P 16 (2019) ("In finding [certain tariff provisions] unjust and unreasonable ... pursuant to FPA section 206, the Commission is required to establish the just and reasonable replacement rate.").

[1178] Order No. 2023, 184 FERC ¶ 61,054 at P 1600. While we are declining to include dynamic line ratings among the enumerated technologies for the reasons explained herein, we note that dynamic line ratings may have greater utility when studying an interconnection customer requesting ERIS because such a customer is opting for "as available" service. *See* Order No. 2003-A, 106 FERC ¶ 61,220 at P 499. By contrast, for NRIS, "[t]ransmission [p]roviders must study the [t]ransmission [s]ystem at peak load, under a variety of severely stressed conditions to determine whether, with the [g]enerating [f]acility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load, consistent with [t]ransmission [p]rovider's reliability criteria and procedures." Order No. 2003-A, 106 FERC ¶ 61,220 at P 500.

from the enumerated list of alternative transmission technologies: storage resources must also be evaluated to determine whether a storage resource performs a transmission function through a case-by-case analysis of either how a particular storage resource would be operated or the requirements set forth in a tariff governing selection of such storage resources.[1179] That analysis would determine whether the storage resource's cost can be recovered in transmission rate base or as a network upgrade. This additional analysis distinguishes energy storage from the other technologies on the enumerated list of alternative transmission technologies and is the basis for its exclusion from the list. We reiterate, however, that Order No. 2023 does not preclude a transmission provider from studying or evaluating any technology that was not included in the enumerated list of alternative transmission technologies.[1180]

3. Modeling and Ride Through Requirements for Non-Synchronous Generating Facilities

a. Modeling Requirements

i. Order No. 2023 Requirements

641. In Order No. 2023, the Commission revised Attachment A to Appendix 1 of the *pro forma* LGIP and Attachment 2 of the *pro forma* SGIP to require each interconnection

[1179] Order No. 2023, 184 FERC ¶ 61,054 at P 1599. In Order No. 2023, the Commission pointed to the process in SPP, which takes into account five considerations that, together, ensure that a selected storage resource will serve a transmission function. *Id*. (citing *Sw. Power Pool, Inc.*, 183 FERC ¶ 61,153, at P 29 (2023)).

[1180] *Id*. P 1600.

customer requesting to interconnect a non-synchronous generating facility to submit to the transmission provider: (1) a validated user-defined root mean square (RMS) positive sequence dynamic model; (2) an appropriately parameterized generic library RMS positive sequence dynamic model, including a model block diagram of the inverter control system and plant control system, that corresponds to a model listed in a new table of acceptable models or a model otherwise approved by the Western Electricity Coordinating Council (WECC); and (3) a validated electromagnetic transient (EMT) model, if the transmission provider performs an EMT study as part of the interconnection study process.[1181]

642. The Commission also adopted the NOPR proposals to: (1) define a user-defined model as any set of programming code created by equipment manufacturers or developers that captures the latest features of controllers that are mainly software-based and represent the entities' control strategies but does not necessarily correspond to any particular generic library model, as contained in Attachment A to Appendix 1 of the *pro forma* LGIP and Attachment 2 of the *pro forma* SGIP; (2) revise Attachment A to Appendix 1 of the *pro forma* LGIP and Attachment 2 of the *pro forma* SGIP to add a table of acceptable generic library models, based on the current WECC list of approved dynamic models for renewable energy generating facilities; and (3) revise section 4.4.4 of the *pro forma* LGIP and section 1.4 of the *pro forma* SGIP to require that any proposed

[1181] *Id*. P 1659.

modification of the interconnection request be accompanied by updated models of the proposed generating facility.[1182]

ii. Requests for Rehearing and Clarification

643. Invenergy asks the Commission to modify the *pro forma* LGIP, Appendix 1, Attachment A to state that, if a validated EMT model is not available, a preliminary EMT model may be provided, and, if a validated EMT model is determined to be necessary, the interconnection customer shall submit the validated EMT model no later than needed for the cluster restudy.[1183] Invenergy argues that requiring validation of EMT models at the time of the interconnection application will impede an interconnection customer's ability to use an advanced product with higher annual energy production values because such products will not be validated.[1184] Invenergy explains that the only equipment with an available, validated EMT model is equipment that has been in the market for some years, and it is unreasonable to require an interconnection customer to submit a validated EMT model at the time of interconnection application even if the proposed commercial operation date may be in five or six years. Invenergy asserts that it is unclear whether a project developer might be able to provide EMT models for different equipment later in the process as newer equipment becomes field tested without the transmission provider

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[1182] *Id.* P 1660.

[1183] Invenergy Rehearing Request at 13.

[1184] *Id.* at 10-12.

determining that it is a material modification, leading some developers to forego using state-of-the-art technology otherwise available under the commercial operation deadline.

644. Invenergy contends that the Commission's alternative to a validated EMT model that the customer could pursue is not accurate.[1185] Invenergy asserts that the interconnection customer cannot attest to the accuracy of model information because model information is provided by the manufacturer, and equipment manufacturers will not attest to model data until the field test is done, which is later in the process. Invenergy argues that requiring validation is not necessary to achieve the Commission's goal of ensuring that accurate information is used in studies. In particular, Invenergy notes that preliminary models contain the same information as a validated model and are developed based on real design codes but have not been field tested.

645. Invenergy contends that, much like EMT models, requiring validated RMS models at the beginning of the interconnection process will force developers to use older technology and thus stifle innovation and waste time and resources.[1186] Invenergy also argues that the Commission's requirement is not necessary to ensure accurate model information. Therefore, Invenergy asks the Commission to modify the *pro forma* LGIP, Appendix 1, Attachment A and *pro forma* SGIP, Attachment 2, to state that, if a validated RMS model is not available, a preliminary RMS model may be provided and the

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[1185] *Id.* at 12-13.

[1186] *Id.* at 14.

interconnection customer shall submit the validated RMS model no later than needed for the cluster restudy.

646. Ørsted argues that the Commission's decision to require a validated EMT model when seeking to interconnect is arbitrary and capricious and not supported by reasoned decision-making.[1187] Ørsted contends that accurate models for nonsynchronous resources may not be available early in the interconnection process due to rapid advances in inverter and control technologies and that some resources may need customization requiring interconnection customers to make decisions about specific types of technology they may use later in the interconnection process. Ørsted claims that the Commission's requirement does not provide a path forward for such resources and could deter the use of new and more efficient technologies or delay interconnection of needed resources.

647. Ørsted also argues that transmission providers generally do not conduct EMT studies until much later in the interconnection process, resulting in minimal value in the interconnection customer providing and subsequently updating EMT models at the time of interconnection application.[1188] Ørsted asserts that EMT study results typically reveal the need for items such as control tuning rather than additional transmission system upgrades, but this requires an EMT model that accurately represents how the plant is installed and configured as well as transmission system data that can only be provided by

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[1187] Ørsted Rehearing Request at 6-7.

[1188] *Id.* at 7-8.

the transmission provider, so the Commission's requirement is not likely to provide information that is useful for reliability studies and will waste time and resources for both the interconnection customer and the transmission provider.[1189]

648. Ørsted asks the Commission to clarify how to provide a validated model for equipment that does not yet exist.[1190] Ørsted suggests, as example, that the interconnection customer or vendor could self-attest that, to the best of their knowledge, the equipment response is expected to be consistent with the RMS and the EMT models provided at the time of interconnection study.

649. PacifiCorp asks the Commission to add two models to the table of acceptable models that are approved by WECC and relate to ride through requirements.[1191] PacifiCorp states that these qualify as validated user-defined root mean squared positive sequency dynamic models and their inclusion will allow transmission providers to accurately model the ride through characteristics of these resources and help understand if the resource will be tripped for any transmission related event away from the resource.

iii. Determination

650. We are unpersuaded by Invenergy's request for rehearing regarding potential barriers to validation of EMT models at the time of the interconnection application.

[1189] *Id.* at 8-9.

[1190] *Id.* at 9.

[1191] PacifiCorp Rehearing Request at 23-24.

Pursuant to Order No. 2023's definition of a validated model, the interconnection customer has a number of options that do not require field data, such as an attestation that the models accurately reflect the expected behavior of a proposed generating facility based on the interconnection customer's best understanding at the time of the interconnection request.[1192] Therefore, we are not persuaded that the interconnection customer is unable to provide this attestation, even for advanced products.

651. We also find it unnecessary to grant Invenergy's request to modify the *pro forma* LGIP, Appendix 1, Attachment A and *pro forma* SGIP, Attachment 2, to state that, if a validated EMT or RMS model is not available, a preliminary model may be provided, and the interconnection customer shall submit the validated model no later than needed for the cluster restudy. As noted above, such preliminary models are acceptable under Order No. 2023's definition of a validated model, as long as it is based on the actual programming code used by the manufacturer to program equipment.

652. We deny Ørsted's request for clarification regarding how to provide a validated model for equipment that does not yet exist. An interconnection request that fails to specify the equipment to be used, including, for example, the inverter manufacturer, model name, number, and version, is not a complete application.[1193] However, we acknowledge that equipment, including inverters, may advance over the period of time an

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[1192] Order No. 2023, 184 FERC ¶ 61,054 at P 1675.

[1193] *See pro forma* LGIP, attach. A to app. 1.

interconnection customer proceeds through the queue. We note that section 4.6 of the *pro forma* LGIP contains the transmission provider's technological change procedure, which is designed to allow transmission providers to evaluate equipment changes to an interconnection request.[1194]

653. We are unpersuaded by Invenergy's request for rehearing regarding whether a project developer might be able to provide EMT models for different equipment later in the process as newer equipment becomes field tested without the transmission provider determining that it is a material modification. Order No. 2023 was clear that section 4.4 of the *pro forma* LGIP and section 1.4 of the *pro forma* SGIP set forth procedures for modifications to an interconnection request, including the evaluation of technical changes to a request, and such changes may be determined to be a material modification.[1195] Furthermore, as noted above, section 4.6 of the *pro forma* LGIP contains the transmission provider's technological change procedure, which is designed to allow transmission providers to evaluate equipment changes to an interconnection request.

654. We are unpersuaded by Ørsted's rehearing request regarding the timing of EMT model availability. While the Commission has approved proposals to perform an EMT study following execution of the LGIA, the *pro forma* LGIP and *pro forma* SGIP contain

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[1194] Order No. 2023, 184 FERC ¶ 61,054 at P 1682.

[1195] *Id.*

no such study.[1196] We sustain the finding in Order No. 2023 that requiring models to be submitted with the interconnection request is consistent with the principles underpinning other requirements in the *pro forma* LGIP and *pro forma* SGIP. Allowing model validation at a point further into the interconnection process could lead to restudies and subsequent delays that would frustrate the efficiency gained by the other reforms in Order No. 2023.[1197]

655. We are unpersuaded by PacifiCorp's request for the Commission to add two models to the table of acceptable models that are approved by WECC and relate to ride through requirements.[1198] PacifiCorp presents this issue for the first time in its rehearing request. In general, we reject rehearing requests that raise a new issue, unless we find that the issue could not have been previously presented.[1199] We are not persuaded that PacifiCorp could not have raised this issue earlier in this proceeding. However, we also note that transmission providers may explain specific circumstances on compliance and justify why any deviations are either consistent with or superior to the *pro forma* LGIP or merit an independent entity variation in the context of RTOs/ISOs.

[1196] *See Sw. Power Pool Inc.*, 181 FERC ¶ 61,018, at P 8 (2022).

[1197] Order No. 2023, 184 FERC ¶ 61,054 at P 1669.

[1198] PacifiCorp Rehearing Request at 23-24. It is unclear which models PacifiCorp would like to add, but it appears that they might be LHFRT (Low/High Frequency Ride Through) and LHVRT (Low/High Voltage Ride Through).

[1199] *See supra* P 386.

b. Ride Through Requirements

i. Order No. 2023 Requirements

656. The Commission revised article 9.7.3 of the *pro forma* LGIA and article 1.5.7 of the *pro forma* SGIA to require that, during abnormal frequency conditions and voltage conditions within the "no trip zone" defined by Reliability Standard PRC-024-3 or successor mandatory ride through reliability standards, the non-synchronous generating facility must ensure that, within any physical limitations of the generating facility, its control and protection settings are configured or set to: (1) continue active power production during disturbance and post disturbance periods at pre-disturbance levels unless providing primary frequency response or fast frequency response; (2) minimize reductions in active power and remain within dynamic voltage and current limits, if reactive power priority mode is enabled, unless providing primary frequency response or fast frequency response; (3) not artificially limit dynamic reactive power capability during disturbances; and (4) return to pre-disturbance active power levels without artificial ramp rate limits if active power is reduced, unless providing primary frequency response or fast frequency response.[1200]

ii. Requests for Rehearing and Clarification

657. Invenergy argues that the proposed ride through requirements impose requirements on non-synchronous generators that they may not be able to meet because

[1200] Order No. 2023, 184 FERC ¶ 61,054 at P 1715.

the generator can only maintain active current, not power, and may not have a choice to choose between reactive and real power output during a disturbance due to equipment limitations.[1201] Invenergy asserts that requiring a non-synchronous generator to produce active power instead of providing reactive support is very likely to exacerbate, rather than alleviate, the disturbance. Therefore, Invenergy asks the Commission to modify section 9.7.3 of the *pro forma* LGIA to limit the prioritization of active power to frequency response disturbances and clarify that the default ride-though rule for other disturbances can be prioritizing reactive power. Invenergy also asks the Commission to consider establishing a technical conference to obtain information directly from the standards setting bodies, the companies that design and supply the equipment, and other engineering experts to support the Commission's determinations.

658. Similarly, Clean Energy Associations ask the Commission to clarify that the text "within any physical limitations of the generating facility" allows a resource that is responding to a disturbance in reactive power priority mode to reduce its active power production if it does not have sufficient headroom to increase reactive power to provide required voltage support, without violating the requirement to continue active power production during disturbance and post disturbance periods at pre-disturbance levels.[1202]

[1201] Invenergy Rehearing Request at 16-17.

[1202] Clean Energy Associations Rehearing Request at 83.

iii. Determination

659. We are not persuaded by Invenergy's request to modify section 9.7.3 of the *pro forma* LGIA to limit the prioritization of active power to frequency response disturbances and clarify that the default ride-though rule for other disturbances can be prioritizing reactive power. As further explained below, Order No. 2023 allows a non-synchronous generating facility with physical limitations to prioritize reactive power. The extent to which a non-synchronous generating facility prioritizes real or reactive power is best handled on a case-by-case basis based on the transmission provider's evaluation of the reliability needs of its system, because different transmission systems and different operating conditions may require different responses from interconnected resources, as opposed to a default response.

660. We grant Clean Energy Associations' request for clarification. In Order No. 2023, the Commission noted that the modified reform accommodates existing technical capabilities and physical limitations of non-synchronous generating facilities by providing for reductions in active power to prioritize reactive power.[1203] A generating facility's inability to prioritize reactive power without a reduction in active power is considered one of the "physical limitations of the generating facility" that provides an exception, albeit limited, to the requirement that the generating facility continue active

[1203] Order No. 2023, 184 FERC ¶ 61,054 at P 1717.

power production during disturbance and post disturbance periods at pre-disturbance levels.

661. However, given the importance of prioritization of reactive power, we are persuaded that additional clarity is necessary. Accordingly, we revise section 9.7.3 of the *pro forma* LGIA and article 1.5.7 of the *pro forma* SGIA to state that a non-synchronous generating facility must ensure that, within any physical limitations of the generating facility:

> . . . its control and protection settings are configured or set to (1) continue active power production during disturbance and post disturbance periods at pre-disturbance levels, *unless reactive power priority mode is enabled* or unless providing primary frequency response or fast frequency response. . . .

662. Given this modification, we do not believe a technical conference, as suggested by Invenergy, is necessary at this time.

F. Compliance Procedures

1. Order No. 2023 Requirements

663. The Commission required transmission providers to submit compliance filings within 90 calendar days of the publication date of Order No. 2023 in the *Federal Register*, rather than the proposed 180 days from the effective date of Order No. 2023.

2. Requests for Rehearing and Clarification

664. A number of entities asked the Commission to extend the deadline for compliance established in Order No. 2023.[1204]

665. Indicated PJM TOs argue that Order No. 2023 is unduly discriminatory and will inappropriately impose substantial administrative burdens on all transmission providers, even though transmission providers who have already adopted cluster study processes are not similarly situated to those transmission providers who have not adopted such processes.[1205]

666. Dominion states that it understands that the Commission intended tariff revisions made in compliance with Order No. 2023 to be prospective, but Dominion argues that the Commission did not provide guidance as to what effective date transmission providers should use for purposes of their compliance filing.[1206] Dominion asks the Commission to

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[1204] *See* AEP Rehearing Request at 26-28 (requesting more time for compliance); Dominion Rehearing Request at 26-30 (requesting a year to submit compliance filings); EEI Rehearing Request at 10-11 (requesting the compliance deadline be set to 180 days from the effective date of the final rule) ; PacifiCorp Rehearing Request at 20-22 (requesting the compliance deadline be set to 180 days from the effective date of the final rule, or alternatively, 120 days); PJM Rehearing Request at 46-48 (requesting the Commission delay compliance such that the 90 day clock would start upon the Commission's issuance of an order on rehearing).

[1205] Indicated PJM TOs Rehearing Request at 17.

[1206] Dominion Rehearing Request at 30 (citing Order No. 2023, 184 FERC ¶ 61,054 at P 1769 ("This final rule will be effective as described above; however, the *pro forma* LGIP, *pro forma* LGIA, *pro forma* SGIP], and *pro forma* SGIP requirements in transmission providers' tariffs will not be effective until the Commission-approved effective date of the transmission provider's filing in compliance with this final rule.")).

clarify that any compliance filings can be made effective in a way that will align with cluster processing dates, such as the start of a new processing window. Dominion asserts that such an effective date would allow the required revisions to be implemented on a going-forward and efficient basis and would not require any mid-process changes by requiring revisions to go into effect in the middle of a cluster window.

3. Determination

667. On October 25, 2023, the Commission addressed arguments on rehearing regarding extending the deadline for compliance established in Order No. 2023.[1207] The Commission extended the compliance deadline to require compliance filings to be submitted within 210 calendar days of the publication of Order No. 2023 in the Federal Register (i.e., within 149 calendar days of the effective date of Order No. 2023, or April 3, 2024). To incorporate the changes made herein, we further extend the deadline until the effective date of this order (i.e., the deadline for compliance with Order No. 2023 will be 30 days after the publication of this order in the Federal Register, and must include the further revisions reflected in this order).

668. We disagree with arguments that Order No. 2023 imposes an inappropriately large compliance burden on regions already generally in accord with the approach adopted in Order No. 2023, or that it is unduly discriminatory to impose the same compliance obligations on both entities that have already adopted cluster study processes and those

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[1207] *Order on Motions and Addressing Limited Arguments Raised on Rehearing and Setting Aside Prior Order, In Part*, Docket No. RM22-14 (Oct. 25, 2023).

that have not. We find that the compliance burden imposed by Order No. 2023 is appropriate given the scope of the problem at hand. It is not unduly discriminatory to require all transmission providers subject to the Commission's jurisdiction to comply with Commission rules.

669. Regarding Dominion's request for clarification, we confirm that transmission providers may propose effective dates in their compliance filings that align with their existing queue processing dates, such as the start of a new processing window. We will consider these requests on a case-by-case basis in each individual compliance filing. To the extent Order No. 2023 suggested, by referencing MISO's compliance filing, that transmission providers may not be granted an effective date that predates the Commission order on compliance,[1208] we clarify that the Commission will consider, and may grant, requests from transmission providers for an effective date that predates the Commission's order on their compliance filing, on a case-by-case basis.

III. Information Collection Statement

670. The information collection requirements contained in this final rule are subject to review by the Office of Management and Budget (OMB) under section 3507(d) of the Paperwork Reduction Act of 1995.[1209] OMB's regulations require approval of certain

[1208] Order No. 2023, 184 FERC ¶ 61,054 at P 1769.

[1209] 44 U.S.C. § 3507(d).

information collection requirements imposed by agency rules.[1210] Respondents subject to the filing requirements of this order on rehearing will not be penalized for failing to respond to the collection of information unless the collection of information displays a valid OMB control number.

671. Previously, the Commission submitted to OMB the information collection requirements arising from Order No. 2023 and OMB approved those requirements. In this order on rehearing, the Commission makes no substantive changes to those requirements, but does make some modifications to the Commission's standard large generator interconnection procedures and agreements (i.e., the *pro forma* LGIP and *pro forma* LGIA) and the Commission's standard small generator interconnection procedures and agreement (i.e., the *pro forma* SGIP and *pro forma* SGIA) that every public utility transmission provider is required to include in their tariff under section 35.28 of the Commission's regulations.[1211] This order on rehearing in Docket No. RM22-14-001 requires each transmission provider to amend its tariff to implement the modifications adopted in this order on rehearing and submit a compliance filing to the Commission for approval of those modifications. Therefore, the Commission finds it necessary to make a

[1210] 5 CFR 1320.11.

[1211] 18 CFR 35.28(f)(1).

formal submission to OMB for review and approval under section 3507(d) of the Paperwork Reduction Act of 1995.[1212]

672. The modifications in the Docket No. RM22-14-001 affect the following currently approved information collections: *FERC-516, Electric Rate Schedules and Tariff Filings (Control No. 1902-0096);* and *FERC-516A, Standardization of Small Generator Interconnection Agreements and Procedures (Control No. 1902-0203).* The Commission, in this order on rehearing, is updating the burden[1213] estimates associated with *FERC-516* and *FERC-516A* information collections to reflect the incremental burden of complying with the new requirements set forth in this order.

673. Summary of the Revisions to the Collection of Information due to the order on rehearing in Docket No. RM22-14-001:

- FERC-516: This order on rehearing revises the Commission's *pro forma* LGIP and LGIA and requires each public utility to amend its LGIP and LGIA. The amendments pertain to the first ready, first served cluster study process, withdrawal penalties, affected systems study process, the evaluation of alternative transmission technologies, and the maintenance of power production during abnormal frequency conditions and certain voltage conditions.

[1212] 44 U.S.C. § 3507(d).

[1213] 5 CFR 1320.3(b)(1).

- FERC-516A: This order on rehearing amends the Commission's standard small generator interconnection procedures and agreement (i.e., the *pro forma* SGIP and *pro forma* SGIA) regarding the evaluation of alternative transmission technologies and the maintenance of power production during abnormal frequency conditions and certain voltage conditions.
- Title: Electric Rate Schedules and Tariff Filings (FERC-516), and Standardization of Small Generator Interconnection Agreements and Procedures (FERC-516A).
- Action: Revision of information collections in accordance with Docket No. RM22-14-001.
- OMB Control Nos.: 1902-0096 (FERC-516) and 1902-0203 (FERC-516A).
- Respondents: Public utility transmission providers, including RTOs/ISOs.
- Frequency of Information Collection: One time during Year 1.
- Necessity of Information: The LGIP, LGIA, SGIP, and SGIA modifications in this order on rehearing ensure that interconnection customers can interconnect to the transmission system in a reliable, efficient, transparent, and timely manner, and prevent undue discrimination. The modifications are intended to ensure that the generator interconnection process is just, reasonable, and not unduly discriminatory or preferential.
- Internal Review: We have reviewed the requirements set forth in this order on rehearing that impose information collection burdens and have determined that such requirements are necessary. These requirements conform to the

Commission's need for efficient information collection, communication, and management within the energy industry. We have specific, objective support for the burden estimates associated with the information collection requirements.

- Public Reporting Burden: As with Order No. 2023, we estimate that 44 transmission providers, including RTOs/ISOs, will be subject to this order on rehearing. The burden and cost estimates below reflect the incremental burden of complying with this order on rehearing, which will require a single compliance filing to be submitted to the Commission. We estimate no ongoing information collection burden because there is either no information collection aspect of the requirement or the requirements would merely supplant existing ones. The Commission estimates that the order on rehearing in Docket No. RM22-14-001 will adjust the burden and cost of FERC-516 and FERC-516A as follows:

Table 1: Information Collection Requirements

Changes Due to Order on Rehearing in Docket No. RM22-14-001					
Reforms	**Number of Respondents (1)**	**Annual Number of Responses Per Respondent (2)**	**Total Number of Responses (Rounded) (1) * (2) = (3)**	**Average Burden (Hr.) & Cost ($) Per Response[1214] (4)**	**Total Annual Burden Hours & Total Annual Cost ($) (Rounded) (3) * (4) = (5)**
FERC-516:					
First Ready, First Served Cluster Study	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 2 hr; $200 Ongoing: 0	Year 1: 88 hr; $8,800 Ongoing: 0
Allocation of Cluster Network Upgrade Costs	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0
Affected System Study Process	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0[1215]	Year 1: 2 hr; $200 Ongoing: 0	Year 1: 88 hr; $8,800 Ongoing: 0
Study Deposits and LGIA Deposit	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0

[1214] Commission staff estimate that respondents' hourly wages plus benefits are comparable to those of FERC employees (2024). Therefore, the 2024 FERC hourly cost estimate in this analysis is $100 per hour ($207,786 per year).

[1215] Order No. 2023 erroneously reported 44 ongoing responses for Affected Systems Study Process reforms. This was an error and the current number of estimated ongoing responses is zero. However, the burden cost per response and total burden estimates for Affected Systems Study Process reforms were correctly calculated and reported.

Changes Due to Order on Rehearing in Docket No. RM22-14-001					
Reforms	**Number of Respondents (1)**	**Annual Number of Responses Per Respondent (2)**	**Total Number of Responses (Rounded) (1) * (2) = (3)**	**Average Burden (Hr.) & Cost ($) Per Response[1214] (4)**	**Total Annual Burden Hours & Total Annual Cost ($) (Rounded) (3) * (4) = (5)**
Commercial Readiness	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 3 hrs; $300 Ongoing: 0	Year 1: 132 hr; $13,200 Ongoing: 0
Withdrawal Penalties	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 2 hr; $200 Ongoing: 0	Year 1: 88 hr; $8,800 Ongoing: 0
Elimination of Reasonable Efforts Standard	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0
Transition Process	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0
Co-Located Generating Facilities Behind One Point of Interconnection with Shared Interconnection Requests	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0
Ride Through Requirements	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0

Changes Due to Order on Rehearing in Docket No. RM22-14-001					
Reforms	**Number of Respondents (1)**	**Annual Number of Responses Per Respondent (2)**	**Total Number of Responses (Rounded) (1) * (2) = (3)**	**Average Burden (Hr.) & Cost ($) Per Response[1214] (4)**	**Total Annual Burden Hours & Total Annual Cost ($) (Rounded) (3) * (4) = (5)**
Incorporating Enumerated Alternative Transmission Technologies into the Generator Interconnection Process	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0
Total New Burden for FERC-516 (due to Docket No. RM22-14-001)		**Year 1: 484 responses Ongoing: 0**		**Year 1: 704 hr; $70,400 Ongoing: 0 hr; 0**	
FERC-516A					
Ride Through Requirements	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0

Changes Due to Order on Rehearing in Docket No. RM22-14-001					
Reforms	**Number of Respondents (1)**	**Annual Number of Responses Per Respondent (2)**	**Total Number of Responses (Rounded) (1) * (2) = (3)**	**Average Burden (Hr.) & Cost ($) Per Response[1214] (4)**	**Total Annual Burden Hours & Total Annual Cost ($) (Rounded) (3) * (4) = (5)**
Incorporating Enumerated Alternative Transmission Technologies into the Generator Interconnection Process	44 (TPs)	Year 1: 1 Ongoing: 0	Year 1: 44 Ongoing: 0	Year 1: 1 hr; $100 Ongoing: 0	Year 1: 44 hr; $4,400 Ongoing: 0
Total New Burden for FERC-516A (due to Docket No. RM22-14-001)			**Year 1: 88 responses Ongoing: 0**		**Year 1: 88 hr; $8,800 Ongoing: 0**
Grand Total (FERC-516 plus FERC-516A, including all respondents)			**Year 1: 572 responses Ongoing: 0**		**Year 1: 792 hr; $79,200 Ongoing: 0**
Grand Total Average Per Entity Cost (44 TPs)					**Year 1: $1,800 Ongoing: 0**

674. Interested persons may obtain information on the reporting requirements by contacting Jean Sonneman via email at DataClearance@ferc.gov or telephone (202) 502-6362.

IV. Environmental Analysis

675. The Commission is required to prepare an Environmental Assessment or an Environmental Impact Statement for any action that may have a significant adverse effect on the human environment.[1216] We conclude that neither an Environmental Assessment nor an Environmental Impact Statement is required for this final rule under § 380.4(a)(15) of the Commission's regulations, which provides a categorical exemption for approval of actions under sections 205 and 206 of the FPA relating to the filing of schedules containing all rates and charges for the transmission or sale of electric energy subject to the Commission's jurisdiction, plus the classification, practices, contracts, and regulations that affect rates, charges, classification, and services.[1217]

V. Regulatory Flexibility Act

676. The Regulatory Flexibility Act of 1980[1218] requires a description and analysis of proposed and final rules that will have significant economic impact on a substantial

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[1216] *Reguls. Implementing the Nat'l. Env't Pol'y Act*, Order No. 486, 52 FR 47897 (Dec. 17, 1987), FERC Stats. & Regs. Preambles 1986-1990 ¶ 30,783 (1987) (cross-referenced at 41 FERC ¶ 61,284).

[1217] 18 CFR 380.4(a)(15).

[1218] 5 U.S.C. § 601-612.

number of small entities. The Commission continues to certify that the reforms adopted in this order on rehearing would not have a significant economic impact on a substantial number of small entities.

677. The Small Business Administration (SBA) sets the threshold for what constitutes a small business. Under SBA's size standards,[1219] transmission providers and RTOs/ISOs fall under the category of Electric Bulk Power Transmission and Control (NAICS code 221121), that has a size threshold of under 950 employees including the entity and its associates.[1220] This order on rehearing modifies the Commission's standard large generator interconnection procedures and agreements (i.e., the *pro forma* LGIP and *pro forma* LGIA) and the Commission's standard small generator interconnection procedures and agreement (i.e., the *pro forma* SGIP and *pro forma* SGIA) that every public utility transmission provider is required to include in their tariff under section 35.28 of the Commission's regulations, regardless of the size of the entity.[1221]

[1219] 13 CFR 121.201.

[1220] The RFA definition of "small entity" refers to the definition provided in the Small Business Act, which defines a "small business concern" as a business that is independently owned and operated and that is not dominant in its field of operation. The Small Business Administration's regulations define the threshold for a small Electric Bulk Power Transmission and Control entity (NAICS code 221121) to be 950 employees ("the maximum allowed for a concern and its affiliates to be considered small"). *See* 13 CFR 121.201; *see also* 5 U.S.C. § 601(3) (citing to section 3 of the Small Business Act, 15 U.S.C. § 632).

[1221] 18 CFR 35.28(f)(1).

678. As with Order No. 2023, we estimate that there are 44 transmission providers affected by the reforms proposed in this order on rehearing. Furthermore, we estimate that six of the 44 total transmission providers, approximately 14% (rounded), are small entities.

679. We estimate that one-time costs (in Year 1) associated with the reforms required by this order on rehearing for one transmission provider (as shown in the table in the Information Collection Statement above) would be $1,800. Following Year 1, we estimate that there will be no ongoing costs for transmission providers. According to SBA guidance, the determination of significance of impact "should be seen as relative to the size of the business, the size of the competitor's business, and the impact the regulation has on larger competitors."[1222] The Year 1 estimated cost of this order on rehearing reflects 2.5% of the Year 1 estimated cost of Order No. 2023, which the Commission found to not have a significant economic impact. Further, this order on rehearing will create no ongoing costs for transmission providers in addition to those in Order No. 2023. We therefore do not consider the estimated cost of $1,800 per transmission provider due to this order on rehearing to be a significant economic impact. As a result, as the Commission concluded in Order 2023, we certify that the reforms

[1222] U.S. Small Business Administration, *A Guide for Government Agencies How to Comply with the Regulatory Flexibility Act*, at 18 (Aug. 2017), https://cdn.advocacy.sba.gov/wp-content/uploads/2019/06/21110349/How-to-Comply-with-the-RFA.pdf.

proposed in this order on rehearing would not have a significant economic impact on a substantial number of small entities.

VI. Document Availability

680. In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through the Commission's Home Page (http://www.ferc.gov).

681. From FERC's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.

682. User assistance is available for eLibrary and the FERC's website during normal business hours from FERC Online Support at (202) 502-6652 (toll free at 1-866-208-3676) or email at ferconlinesupport@ferc.gov, or the Public Reference Room at (202) 502-8371, TTY (202) 502-8659. E-mail the Public Reference Room at public.referenceroom@ferc.gov.

VII. Effective Date

683. These regulations are effective **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

By the Commission. Commissioner Christie is concurring with a separate statement attached.

(S E A L)

Debbie-Anne A. Reese,
Acting Secretary.

Note: The following appendices will not appear in the Code of Federal Regulations.

Appendix A: Abbreviated Names of Rehearing Parties

American Clean Power Association	ACP
American Electric Power Service Corporation	AEP
Avangrid, Inc.	Avangrid
California Independent System Operator Corporation	CAISO
Advanced Energy United, American Clean Power Association, and Solar Energy Industries Association	Clean Energy Associations
Dominion Energy Services, Inc	Dominion
Duke Energy Carolinas, LLC; Duke Energy Progress, LLC; and Duke Energy Florida, LLC	Duke Southeast Utilities
Edison Electric Institute	EEI
National Grid Renewables Development, LLC, Clearway Energy Group LLC, and Pine Gate Renewables, LLC	Generation Developers
Cypress Creek Renewables, LLC, New Leaf Energy, Inc., and Enel Green Power	IPP Coalition
Indicated PJM Transmission Owners	Indicated PJM TOs
Invenergy Solar Development North America LLC; Invenergy Thermal Development LLC; Invenergy Wind Development North America LLC; and Invenergy Transmission LLC	Invenergy
ITC Holdings Corp., on behalf of its operating subsidiaries International Transmission Company d/b/a ITC Transmission, Michigan Electric Transmission Company, LLC, ITC Midwest LLC, and ITC Great Plains, LLC	ITC
PJM Interconnection, LLC, Midcontinent Independent System Operator, Inc., and Southwest Power Pool, Inc.	Joint RTOs
Longroad Energy Holdings, LLC	Longroad Energy

Midcontinent Independent System Operator, Inc.	MISO
MISO Transmission Owners	MISO TOs
New York Independent System Operator, Inc.	NYISO
New York Public Service Commission	NYSPSC
New York Transmission Owners	NYTOs
NewSun Energy LLC	NewSun
Dominion Energy South Carolina, Inc., Florida Power & Light Company, and Public Service Company of Colorado	Non-RTO Providers
Nevada Power Company and Sierra Pacific Power Company	NV Energy
Ørsted North America, LLC	Ørsted
PacifiCorp	PacifiCorp
PJM Interconnection, L.L.C.	PJM
Sustainable FERC Project, Sierra Club, Natural Resources Defense Council, Earthjustice, Acadia Center, Environmental Defense Fund, National Audubon Society, Southern Environmental Law Center, and Southface	Public Interest Organizations
Dominion Energy South Carolina, Inc., PacifiCorp, and Tri-State Generation and Transmission Association, Inc.	Revised Early Adopters Coalition
Shell Energy North America (US), L.P., Shell New Energies US, LLC, and Savion, LLC	Shell
Duke Energy Carolinas, LLC, Duke Energy Progress, LLC, Louisville Gas and Electric Company and Kentucky Utilities Company, PowerSouth Energy Cooperative, and Southern Company Services, Inc., acting as agent for Alabama Power Company, Georgia Power Company, and Mississippi Power Company	Southeastern Utilities
Southwest Power Pool, Inc.	SPP
VEIR Inc.	VEIR

Working for Advanced Transmission Technologies Coalition	WATT Coalition
WIRES	WIRES

Appendix B: Interconnection Study Metrics

Table 1: 2022 Interconnection Study Metrics from Non-RTOs/ISOs with a Clustered System Impact Study

Transmission Provider	Number of Interconnection Requests with Completed Clustered System Impact Studies	Average Number of Days to Complete Clustered System Impact Study	Number of Facilities Studies Completed	Average Number of Days to Complete Facilities Study
Arizona Public Service	21	511	19	144
Avista Corp.	22	61	7	136
Dominion Energy South Carolina	0		0	
Duke Energy Carolinas	14	N/A	1	185
El Paso Electric Co.	5	76	1	76
Nevada Power	67	119	36	120
PacifiCorp	189	146	13	90
Public Service Company of Colorado	25	246	16	143
Public Service Company of New Mexico	17	507	4	168

Tri-State Generation and Transmission[1223]	10	119	10	85

[1223] Data drawn from the following sources, respectively:

https://www.oasis.oati.com/azps/ (Arizona Public Service); https://www.oasis.oati.com/avat/ (Avista Corp.); https://www.oasis.oati.com/SCEG/ (Dominion Energy South Carolina); http://www.oasis.oati.com/duk/index.html (Duke Energy Carolinas); https://www.oasis.oati.com/epe/index.html (El Paso Electric Co.); http://www.oasis.oati.com/NEVP/ (Nevada Power); https://www.oasis.oati.com/PPW/ (PacifiCorp); https://www.oasis.oati.com/psco/index.html (Public Service Company of Colorado); https://www.oasis.oati.com/PNM/ (Public Service Company of New Mexico); and https://www.oasis.oati.com/tsgt/index.html (Tri-State Generation and Transmission).

Appendix C: Changes to the pro forma LGIP

Note: Deletions are in brackets and additions are in italics.

STANDARD LARGE GENERATOR

INTERCONNECTION PROCEDURES (LGIP)

including

STANDARD LARGE GENERATOR

INTERCONNECTION AGREEMENT (LGIA)

Standard Large Generator

Interconnection Procedures (LGIP)

(Applicable to Generating Facilities that exceed 20 MW)

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Section 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Affected System Facilities Construction Agreement shall mean the agreement contained in Appendix 11 to this LGIP that is made between Transmission Provider and Affected System Interconnection Customer to facilitate the construction of and to set forth cost responsibility for necessary Affected System Network Upgrades on Transmission Provider's Transmission System.

Affected System Interconnection Customer shall mean any entity that submits an interconnection request for a generating facility to a transmission system other than Transmission Provider's Transmission System that may cause the need for Affected System Network Upgrades on [the] Transmission Provider's Transmission System.

Affected System Network Upgrades shall mean the additions, modifications, and upgrades to Transmission Provider's Transmission System required to accommodate Affected System Interconnection Customer's proposed interconnection to a transmission system other than Transmission Provider's Transmission System.

Affected System Operator shall mean the entity that operates an Affected System.

Affected System Queue Position shall mean the queue position of an Affected System Interconnection Customer in Transmission Provider's interconnection queue relative to Transmission Provider's Interconnection Customers' Queue Positions.

Affected System Study shall mean the evaluation of Affected System Interconnection Customers' proposed interconnection(s) to a transmission system other than Transmission Provider's Transmission System that have an impact on Transmission Provider's Transmission System, as described in Section 9 of this LGIP.

Affected System Study Agreement shall mean the agreement contained in Appendix 9 to this LGIP that is made between Transmission Provider and Affected System Interconnection Customer to conduct an Affected System Study pursuant to Section 9 of this LGIP.

Affected System Study Report shall mean the report issued following completion of an Affected System Study pursuant to Section 9.[6]*7* of this LGIP.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of [the] Transmission Provider's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Standards shall mean the requirements and guidelines of the Electric Reliability Organization and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected.

Balancing Authority shall mean an entity that integrates resource plans ahead of time, maintains demand and resource balance within a Balancing Authority Area, and supports interconnection frequency in real time.

Balancing Authority Area shall mean the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by Transmission Provider or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday.

Cluster shall mean a group of one or more Interconnection Requests that are studied together for the purpose of conducting a Cluster Study.

Cluster Request Window shall mean the time period set forth in Section 3.4.1 of this LGIP.

Cluster Restudy shall mean a restudy of a Cluster Study conducted pursuant to Section 7.5 of this LGIP.

Cluster Restudy Report *shall mean the report issued following completion of a Cluster Restudy pursuant to Section 7.5 of this LGIP.*

Cluster Restudy Report Meeting shall mean the meeting held to discuss the results of a Cluster Restudy pursuant to Section 7.5 of this LGIP.

[Cluster Restudy Report shall mean the report issued following completion of a Cluster Restudy pursuant to Section 7.5 of this LGIP.]

Cluster Study shall mean the evaluation of one or more Interconnection Requests within a Cluster as described in Section 7 of this LGIP.

Cluster Study Agreement shall mean the agreement contained in Appendix 2 to this LGIP for conducting the Cluster Study.

Cluster Study Process shall mean the following processes, conducted in sequence: the Cluster Request Window; the Customer Engagement Window and Scoping Meetings therein; the Cluster Study; any needed Cluster Restudies; and the Interconnection Facilities Study.

Cluster Study Report shall mean the report issued following completion of a Cluster Study pursuant to Section 7 of this LGIP.

Cluster Study Report Meeting shall mean the meeting held to discuss the results of a Cluster Study pursuant to Section 7 of this LGIP.

Clustering shall mean the process whereby one or more Interconnection Requests are studied together, instead of serially, as described in Section 7 of this LGIP.

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Commercial Readiness Deposit shall mean a deposit paid as set forth in Sections 3.4.2, 7.5, and 8.1 of this LGIP.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Contingent Facilities shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

Customer Engagement Window shall mean the time period set forth in Section 3.4.5 of this LGIP.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean [the] Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to [the] Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Electric Reliability Organization shall mean the North American Electric Reliability Corporation *(NERC)* or its successor organization.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of a Transmission Provider, is imminently likely (as determined in

a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Provider's Transmission System, Transmission Provider's Interconnection Facilities or the electric systems of others to which [the] Transmission Provider's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows [the] Interconnection Customer to connect its Generating Facility to [the] Transmission Provider's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or nonfirm capacity of [the] Transmission Provider's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes [the] Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device(s) for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility or the aggregate net capacity of the Generating Facility where it includes more than one device for the production and/or storage for later injection of electricity.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which [the] Interconnection Customer reasonably expects it will be ready to begin use of [the] Transmission Provider's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including [the] Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with [the] Transmission Provider's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to Transmission Provider's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities.

Interconnection Facilities shall mean Transmission Provider's Interconnection Facilities and Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Interconnection Facilities Study shall mean a study conducted by Transmission Provider or a third party consultant for Interconnection Customer to determine a list of facilities (including Transmission Provider's Interconnection Facilities and Network Upgrades as identified in the Cluster Study), the cost of those facilities, and the time required to interconnect the Generating Facility with Transmission Provider's Transmission System. The scope of the study is defined in Section 8 of this LGIP.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 3 of this LGIP for conducting the Interconnection Facilities Study.

Interconnection Facilities Study Report shall mean the report issued following completion of an Interconnection Facilities Study pursuant to Section 8 of this LGIP.

Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to this LGIP, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with [the] Transmission Provider's Transmission System.

Interconnection Service shall mean the service provided by [the] Transmission Provider associated with interconnecting [the] Interconnection Customer's Generating Facility to [the] Transmission Provider's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, [the] Transmission Provider's Tariff.

Interconnection Study shall mean any of the following studies: the Cluster Study, the Cluster Restudy, the Surplus Interconnection Service [System Impact] Study, [and] the Interconnection Facilities Study, *the Affected System Study, Optional Interconnection Study, and Material Modification assessment,* described in this LGIP.

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and [the] Transmission Provider to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

LGIA Deposit shall mean the deposit Interconnection Customer submits when returning the executed LGIA, or within *ten (*10*)* Business Days of requesting that the LGIA be filed unexecuted at the Commission, in accordance with Section 11.3 of this LGIP.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Interconnection Request with an equal or later Queue Position.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

Multiparty Affected System Facilities Construction Agreement shall mean the agreement contained in Appendix 12 to this LGIP that is made among Transmission Provider and multiple Affected System Interconnection Customers to facilitate the construction of and to set forth cost responsibility for necessary Affected System Network Upgrades on Transmission Provider's Transmission System.

Multiparty Affected System Study Agreement shall mean the agreement contained in Appendix 10 to this LGIP that is made among Transmission Provider and

multiple Affected System Interconnection Customers to conduct an Affected System Study pursuant to Section 9 of this LGIP.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows [the] Interconnection Customer to integrate its Large Generating Facility with [the] Transmission Provider's Transmission System (1) in a manner comparable to that in which [the] Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to [the] Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to [the] Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to [the] Transmission Provider's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

Optional Interconnection Study shall mean a sensitivity analysis based on assumptions specified by [the] Interconnection Customer in the Optional Interconnection Study Agreement.

Optional Interconnection Study Agreement shall mean the form of agreement contained in Appendix 4 of this LGIP for conducting the Optional Interconnection Study.

Party or Parties shall mean Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Permissible Technological Advancement {Transmission Provider inserts definition here}.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where [the] Interconnection Customer's Interconnection Facilities connect to [the] Transmission Provider's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to [the] Transmission Provider's Transmission System.

Proportional Impact Method shall mean a technical analysis conducted by Transmission Provider to determine the degree to which each Generating Facility in the Cluster Study contributes to the need for a specific System Network Upgrade.

Provisional Interconnection Service shall mean Interconnection Service provided by Transmission Provider associated with interconnecting [the] Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Provider and/or [the] Transmission Owner and [the] Interconnection Customer. This agreement shall take the form of the *Standard* Large Generator Interconnection Agreement, modified for provisional purposes.

Queue Position shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, established pursuant to Section 4.1 of this LGIP.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Scoping Meeting shall mean the meeting between representatives of Interconnection Customer(s) and Transmission Provider conducted for the purpose of discussing the proposed Interconnection Request and any alternative interconnection options, exchanging information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, refining information and models provided by Interconnection Customer(s), discussing the Cluster Study materials posted to OASIS pursuant to Section 3.5 of this LGIP, and analyzing such information.

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to

construct and operate the Generating Facility; (2) an option to purchase or acquire a leasehold site of sufficient size to construct and operate the Generating Facility; or (3) any other documentation that clearly demonstrates the right of Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Transmission Provider will maintain acreage requirements for each Generating Facility type on its OASIS or public website.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not part of an Affected System that [an] Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction [and the following conditions are met: (1) a Substation Network Upgrade must only be required for a single Interconnection Customer in the Cluster and no other Interconnection Customer in that Cluster is required to interconnect to the same Substation Network Upgrades, and (2) a System Network Upgrade must only be required for a single Interconnection Customer in the Cluster, as indicated under the Transmission Provider's Proportional Impact Method]. Both Transmission Provider and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, Transmission Provider must provide Interconnection Customer a written technical explanation outlining why Transmission Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within *fifteen (*15*) Business* [d]*D*ays of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in [the] Transmission Provider's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in [the] Transmission Provider's Tariff.

Substation Network Upgrades shall mean Network Upgrades that are required at the substation located at the Point of Interconnection.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a *Standard* Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized, the total amount of Interconnection Service at the Point of Interconnection would remain the same.

System Network Upgrades shall mean Network Upgrades that are required beyond the substation located at the Point of Interconnection.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) [the] Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on [the] Transmission Provider's Transmission System or on other delivery systems or other generating systems to which [the] Transmission Provider's Transmission System is directly connected.

Tariff shall mean [the] Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transitional Cluster Study shall mean an Interconnection Study evaluating a Cluster of Interconnection Requests during the transition to the Cluster Study Process, as set forth in Section 5.1.1.2 of this LGIP.

Transitional Cluster Study Agreement *shall mean the agreement contained in Appendix 7 to this LGIP that is made between Transmission Provider and Interconnection Customer to conduct a Transitional Cluster Study pursuant to Section 5.1.1.2 of this LGIP.*

Transitional Cluster Study Report shall mean the report issued following completion of a Transitional Cluster Study pursuant to Section 5.1.1.2 of this LGIP.

Transitional Serial Interconnection Facilities Study shall mean an Interconnection Facilities Study evaluating an Interconnection Request on a serial basis during the transition to the Cluster Study Process, as set forth in Section 5.1.1.1 of this LGIP.

Transitional Serial Interconnection Facilities Study Agreement *shall mean the agreement contained in Appendix 8 to this LGIP that is made between Transmission Provider and Interconnection Customer to conduct a Transitional Serial Interconnection Facilities Study pursuant to Section 5.1.1.1 of this LGIP.*

Transitional Serial Interconnection Facilities Study Report shall mean the report issued following completion of a Transitional *Serial* Interconnection Facilities Study pursuant to Section 5.1.1.1 of this LGIP.

Transitional Withdrawal Penalty *shall mean the penalty assessed by Transmission Provider to Interconnection Customer that has entered the Transitional Cluster Study or Transitional Serial Interconnection Facilities Study and chooses to*

withdraw or is deemed withdrawn from Transmission Provider's interconnection queue or whose Generating Facility does not otherwise reach Commercial Operation. The calculation of the Transitional Withdrawal Penalty is set forth in Sections 5.1.1.1 and 5.1.1.2 of this LGIP.

Transmission Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Standard Large Generator Interconnection Agreement to the extent necessary.

Transmission Provider shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from [the] Transmission Provider.

Transmission Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled, or operated by Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Transmission System shall mean the facilities owned, controlled or operated by [the] Transmission Provider or Transmission Owner that are used to provide transmission service under the Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Withdrawal Penalty shall mean the penalty assessed by Transmission Provider to an Interconnection Customer that chooses to withdraw or is deemed withdrawn from Transmission Provider's interconnection queue or whose Generating Facility does not otherwise reach Commercial Operation. The calculation of the Withdrawal Penalty is set forth in Section 3.7.1 of this LGIP.

Section 2. Scope and Application

2.1 Application of Standard Large Generator Interconnection Procedures.

Sections 2 through 13 *of this LGIP* apply to processing an Interconnection Request pertaining to a Large Generating Facility.

2.2 Comparability.

Transmission Provider shall receive, process and analyze all Interconnection Requests in a timely manner as set forth in this LGIP. Transmission Provider shall process and analyze Interconnection Requests from all Interconnection Customers comparably, regardless of whether the Generating Facilities are owned by Transmission Provider, its subsidiaries or Affiliates or others.

2.3 Base Case Data.

Transmission Provider shall maintain base power flow, short circuit and stability databases, including all underlying assumptions, and contingency list on either its OASIS site or a password-protected website, subject to confidentiality provisions in LGIP Section 13.1. In addition, Transmission Provider shall maintain network models and underlying assumptions on either its OASIS site or a password-protected website. Such network models and underlying assumptions should reasonably represent those used during the most recent [i]*I*nterconnection [s]*S*tudy and be representative of current system conditions. If Transmission Provider posts this information on a password-protected website, a link to the information must be provided on Transmission Provider's OASIS site. Transmission Provider is permitted to require that Interconnection Customers, OASIS site users and password-protected website users sign a confidentiality agreement before the release of commercially sensitive information or Critical Energy Infrastructure Information in the Base Case data. Such databases and lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the applicable authority.

2.4 No Applicability to Transmission Service.
Nothing in this LGIP shall constitute a request for transmission service or confer upon an Interconnection Customer any right to receive transmission service.

Section 3. Interconnection Requests

3.1 Interconnection Requests.

3.1.1 Study Deposits.

3.1.1.1 **Study Deposit**. Interconnection Customer shall submit to Transmission Provider, during a Cluster Request Window, an Interconnection Request in the form of Appendix 1 to this LGIP, a[n] *non-refundable* application fee of $5,000, and a refundable study deposit of:

(a) $35,000 plus $1,000 per MW for Interconnection Requests [≥ 20 MW] < 80 MW; or

(b) $150,000 for Interconnection Requests ≥ 80 MW < 200 MW; or

(c) $250,000 for Interconnection Requests ≥ 200 MW.

Transmission Provider shall apply the study deposit toward the cost of the Cluster Study Process.

3.1.2 Submission.

Interconnection Customer shall submit a separate Interconnection Request for each site. Where multiple Generating Facilities share a site, Interconnection Customer(s) may submit separate

Interconnection Requests or a single Interconnection Request. An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Interconnection Requests.

At Interconnection Customer's option, Transmission Provider and Interconnection Customer will identify alternative Point(s) of Interconnection and configurations at a Scoping Meeting within the Customer Engagement Window to evaluate in this process and attempt to eliminate alternatives in a reasonable fashion given resources and information available. Interconnection Customer will select the definitive Point of Interconnection to be studied no later than the execution of the Cluster Study Agreement. For purposes of clustering Interconnection Requests, Transmission Provider may propose changes to the requested Point of Interconnection to facilitate efficient interconnection of Interconnection Customers at common Point(s) of Interconnection. Transmission Provider shall notify Interconnection Customers in writing of any intended changes to the requested Point of Interconnection within the Customer Engagement Window, and the Point of Interconnection shall only change upon mutual agreement.

Transmission Provider shall have a process in place to consider requests for Interconnection Service below the Generating Facility Capacity. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of Interconnection Facilities, Network Upgrades, and associated costs, but may be subject to other studies at the full Generating Facility Capacity to ensure safety and reliability of the system, with the study costs borne by Interconnection Customer. If after the additional studies are complete, Transmission Provider determines that additional Network Upgrades are necessary, then Transmission Provider must: (1) specify which additional Network Upgrade costs are based on which studies; and (2) provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade costs required for safety and reliability also would be borne by Interconnection Customer. Interconnection Customers may be subject to additional control technologies as well as testing and validation of those

technologies consistent with Article 6 of the LGIA. The necessary control technologies and protection systems shall be established in Appendix C of that executed, or requested to be filed unexecuted, LGIA.

Transmission Provider shall have a process in place to study Generating Facilities that include at least one electric storage resource using operating assumptions (i.e., whether the interconnecting Generating Facility will or will not charge at peak load) that reflect the proposed charging behavior of the Generating Facility as requested by Interconnection Customer, unless Transmission Provider determines that Good Utility Practice, including Applicable Reliability Standards, otherwise requires the use of different operating assumptions. If Transmission Provider finds Interconnection Customer's requested operating assumptions conflict with Good Utility Practice, Transmission Provider must provide Interconnection Customer an explanation in writing of why the submitted operating assumptions are insufficient or inappropriate by no later than thirty (30) Calendar Days before the end of the Customer Engagement Window and allow Interconnection Customer to revise and resubmit requested operating assumptions one time at least ten (10) Calendar Days prior to the end of the Customer Engagement Window. Transmission Provider shall study these requests for Interconnection Service, with the study costs borne by Interconnection Customer, using the submitted operating assumptions for purposes of Interconnection Facilities, Network Upgrades, and associated costs. These requests for Interconnection Service also may be subject to other studies at the full Generating Facility Capacity to ensure safety and reliability of the system, with the study costs borne by Interconnection Customer. Interconnection Customer's Generating Facility may be subject to additional control technologies as well as testing and validation of such additional control technologies consistent with Article 6 of the LGIA. The necessary control technologies and protection systems shall be set forth in Appendix C of [the] Interconnection Customer's LGIA.

3.2 Identification of Types of Interconnection Services.

At the time the Interconnection Request is submitted, Interconnection Customer must request either Energy Resource Interconnection Service or Network Resource Interconnection Service, as described; provided, however, any Interconnection Customer requesting Network Resource Interconnection Service may also request that it be concurrently studied for Energy Resource Interconnection Service, up to the point when an Interconnection Facilities Study Agreement is executed. Interconnection Customer may then elect to proceed with Network Resource Interconnection Service or to proceed under a lower level of interconnection service to the extent that only certain upgrades will be completed.

3.2.1 Energy Resource Interconnection Service.

3.2.1.1 **The Product.** Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. Energy Resource Interconnection Service does not in and of itself convey any right to deliver electricity to any specific customer or Point of Delivery.

3.2.1.2 **The Study.** The study consists of short circuit/fault duty, steady state (thermal and voltage) and stability analyses. The short circuit/fault duty analysis would identify direct Interconnection Facilities required and the Network Upgrades necessary to address short circuit issues associated with the Interconnection Facilities. The stability and steady state studies would identify necessary upgrades to allow full output of the proposed Large Generating Facility, except for Generating Facilities that include at least one electric storage resource that request to use operating assumptions pursuant to Section 3.1.2, unless [the]

Transmission Provider determines that Good Utility Practice, including Applicable Reliability Standards, otherwise requires the use of different operating assumptions, and would also identify the maximum allowed output, at the time the study is performed, of the interconnecting Large Generating Facility without requiring additional Network Upgrades.

3.2.2 Network Resource Interconnection Service.

3.2.2.1 The Product. Transmission Provider must conduct the necessary studies and construct the Network Upgrades needed to integrate the Large Generating Facility (1) in a manner comparable to that in which Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service [A]*a*llows Interconnection Customer's Large Generating Facility to be designated as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur.

3.2.2.2 The Study. The Interconnection Study for Network Resource Interconnection Service shall assure that Interconnection Customer's Large Generating Facility meets the requirements for Network Resource Interconnection Service and as a general matter, that such Large Generating Facility's interconnection is also studied with Transmission Provider's Transmission System at peak load, under a variety of severely stressed conditions, to determine whether, with the Large Generating Facility at full output, except for Generating Facilities that include at least

one electric storage resource that request to use, and for which Transmission Provider approves, operating assumptions pursuant to Section 3.1.2, the aggregate of generation in the local area can be delivered to the aggregate of load on Transmission Provider's Transmission System, consistent with Transmission Provider's reliability criteria and procedures. This approach assumes that some portion of existing Network Resources are displaced by the output of Interconnection Customer's Large Generating Facility. Network Resource Interconnection Service in and of itself does not convey any right to deliver electricity to any specific customer or Point of Delivery. [The] Transmission Provider may also study the Transmission System under non-peak load conditions. However, upon request by [the] Interconnection Customer, [the] Transmission Provider must explain in writing to [the] Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

3.3 Utilization of Surplus Interconnection Service.

Transmission Provider must provide a process that allows an Interconnection Customer to utilize or transfer Surplus Interconnection Service at an existing Point of Interconnection. The original Interconnection Customer or one of its affiliates shall have priority to utilize Surplus Interconnection Service. If the existing Interconnection Customer or one of its affiliates does not exercise its priority, then that service may be made available to other potential Interconnection Customers.

3.3.1 Surplus Interconnection Service Requests.

Surplus Interconnection Service requests may be made by the existing Interconnection Customer or one of its affiliates or may be submitted once Interconnection Customer has executed the LGIA or requested that the LGIA be filed unexecuted. Surplus Interconnection Service requests also may be made by another Interconnection Customer. Transmission Provider shall provide a

process for evaluating Interconnection Requests for Surplus Interconnection Service. Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original system impact study report or Cluster Study Report is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary.

Transmission Provider shall study Surplus Interconnection Service requests for a Generating Facility that includes at least one electric storage resource using operating assumptions (i.e., whether the interconnecting Generating Facility will or will not charge at peak load) that reflect the proposed charging behavior of the Generating Facility as requested by Interconnection Customer, unless Transmission Provider determines that Good Utility Practice, including Applicable Reliability Standards, otherwise requires the use of different operating assumptions.

3.4 Valid Interconnection Request.

3.4.1 Cluster Request Window.

Transmission Provider shall accept Interconnection Requests during a forty-five (45) Calendar Day period (the Cluster Request Window). The initial Cluster Request Window shall open for Interconnection Requests beginning {Transmission Provider to provide number of Calendar Days} after the conclusion of the transition process set out in Section 5.1 of this LGIP and successive

Cluster Request Windows shall open annually every {Transmission Provider to provide Month and Day (e.g., January 1)} thereafter.

3.4.2 Initiating an Interconnection Request.

An Interconnection Customer seeking to join a Cluster shall submit its Interconnection Request to Transmission Provider within, and no later than the close of, the Cluster Request Window. Interconnection Requests submitted outside of the Cluster Request Window will not be considered. To initiate an Interconnection Request, Interconnection Customer must submit all of the following:

(i) [a]*A*pplicable study deposit amount, pursuant to Section 3.1.1.1 of this LGIP,

(ii) [a]*A* completed application in the form of Appendix 1,

(iii) [d]*D*emonstration of no less than ninety percent (90%) Site Control or (1) a signed affidavit from an officer of the company indicating that Site Control is unobtainable due to regulatory limitations as such term is defined by [the] Transmission Provider; and (2) documentation sufficiently describing and explaining the source and effects of such regulatory limitations, including a description of any conditions that must be met to satisfy the regulatory limitations and the anticipated time by which Interconnection Customer expects to satisfy the regulatory requirements and (3) a deposit in lieu of Site Control of $10,000 per MW, subject to a minimum of $500,000 and a maximum of $2,000,000. Interconnection Requests from multiple Interconnection Customers for multiple Generating Facilities that share a site must include a contract or other agreement that allows for shared land use[.],

(iv) Generating Facility Capacity (MW) (and requested Interconnection Service level if the requested Interconnection Service is less than the Generating Facility Capacity),

(v) If applicable, (1) the requested operating assumptions (i.e., whether the interconnecting Generating Facility will or will not charge at peak load) to be used by Transmission Provider that reflect the proposed charging behavior of the Generating Facility that includes at least one electric storage resource, and (2) a description of any control technologies (software and/or hardware) that will limit the operation of the Generating Facility to the operating assumptions submitted by Interconnection Customer[.],

(vi) A Commercial Readiness Deposit equal to two times the study deposit described in Section 3.1.1.1 of this LGIP in the form of an irrevocable letter of credit, [or] cash, *a surety bond, or other form of security that is reasonably acceptable to Transmission Provider*. This Commercial Readiness Deposit is refunded to Interconnection Customer according to Section 3.7 of this LGIP,

(vii) A Point of Interconnection, and

(viii) Whether the Interconnection Request shall be studied for Network Resource Interconnection Service or for Energy Resource Interconnection Service, consistent with Section 3.2 of this LGIP.

An Interconnection Customer that submits a deposit in lieu of Site Control due to demonstrated regulatory limitations must demonstrate that it is taking identifiable steps to secure the necessary regulatory approvals from the applicable federal, state, and/or tribal entities before execution of the Cluster Study Agreement. Such deposit will be held by Transmission Provider until Interconnection Customer

provides the required Site Control demonstration for its point in the Cluster Study Process. Interconnection Customers facing qualifying regulatory limitations must demonstrate one[-] hundred percent (100%) Site Control within one[-] hundred eighty (180) Calendar Days of the effective date of the LGIA.

Interconnection Customer shall promptly inform Transmission Provider of any material change to Interconnection Customer's demonstration of Site Control under Section 3.4.2(iii) of this LGIP. If Transmission Provider determines, based on Interconnection Customer's information, that Interconnection Customer no longer satisfies the Site Control requirement, Transmission Provider shall give Interconnection Customer ten (10) Business Days to demonstrate satisfaction with the applicable requirement subject to Transmission Provider's approval. Absent such, Transmission Provider shall deem the Interconnection Request withdrawn pursuant to Section 3.7 of this LGIP.

The expected In-Service Date of the new Large Generating Facility or increase in capacity of the existing Generating Facility shall be no more than the process window for the regional expansion planning period (or in the absence of a regional planning process, the process window for Transmission Provider's expansion planning period) not to exceed seven *(7)* years from the date the Interconnection Request is received by Transmission Provider, unless Interconnection Customer demonstrates that engineering, permitting and construction of the new Large Generating Facility or increase in capacity of the existing Generating Facility will take longer than the regional expansion planning period. The In-Service Date may succeed the date the Interconnection Request is received by Transmission Provider by a period up to ten *(10)* years, or longer where Interconnection Customer and Transmission Provider agree, such agreement not to be unreasonably withheld.

3.4.3 Acknowledgment of Interconnection Request.
Transmission Provider shall acknowledge receipt of the Interconnection Request within five (5) Business Days of receipt of

the request and attach a copy of the received Interconnection Request to the acknowledgement.

3.4.4 Deficiencies in Interconnection Request.

An Interconnection Request will not be considered to be a valid request until all items in Section 3.4.2 of this LGIP have been received by Transmission Provider *during the Cluster Request Window*. If an Interconnection Request fails to meet the requirements set forth in Section 3.4.2 of this LGIP, Transmission Provider shall notify Interconnection Customer within five (5) Business Days of receipt of the initial Interconnection Request of the reasons for such failure and that the Interconnection Request does not constitute a valid request. Interconnection Customer shall provide Transmission Provider the additional requested information needed to constitute a valid request within ten (10) Business Days after receipt of such notice but no later than the close of the Cluster Request Window. At any time, if Transmission Provider finds that the technical data provided by Interconnection Customer is incomplete or contains errors, Interconnection Customer and Transmission Provider shall work expeditiously and in good faith to remedy such issues. In the event that Interconnection Customer fails to comply with this Section 3.4.4 of this LGIP, Transmission Provider[s] shall deem the Interconnection Request withdrawn (without the cure period provided under Section 3.7 of this LGIP), the application fee is forfeited to [the] Transmission Provider, and the study deposit and Commercial Readiness Deposit shall be returned to Interconnection Customer.

3.4.5 Customer Engagement Window.

Upon the close of each Cluster Request Window, Transmission Provider shall open a sixty (60) Calendar Day period (Customer Engagement Window). During the Customer Engagement Window, Transmission Provider shall hold a Scoping Meeting with all interested Interconnection Customers. Notwithstanding the preceding requirements and upon written consent of all Interconnection Customers within the Cluster, Transmission Provider may shorten the Customer Engagement Window and begin the Cluster Study. Within ten (10) Business Days of the opening of

the Customer Engagement Window, Transmission Provider shall post on its OASIS a list of Interconnection Requests for that Cluster. The list shall identify, for each anonymized Interconnection Request: (1) the requested amount of Interconnection Service; (2) the location by county and state; (3) the station or transmission line or lines where the interconnection will be made; (4) the projected In-Service Date; (5) the type of Interconnection Service requested; and (6) the type of Generating Facility or Facilities to be constructed, including fuel types, such as coal, natural gas, solar, or wind. [The] Transmission Provider must ensure that project information is anonymized and does not reveal the identity or commercial information of [i]*I*nterconnection [c]*C*ustomers with submitted requests. During the Customer Engagement Window, Transmission Provider shall provide to Interconnection Customer a non-binding updated good faith estimate of the cost and timeframe for completing the cluster Study and a Cluster Study Agreement to be executed prior to the close of the Customer Engagement Window.

At the end of the Customer Engagement Window, all Interconnection Requests deemed valid that have executed a Cluster Study Agreement in the form of Appendix 2 to this LGIP shall be included in the Cluster Study. Any Interconnection Requests *for which Interconnection Customer has not executed a Cluster Study Agreement* [not deemed valid at the close of the Customer Engagement Window] shall be deemed withdrawn (without the cure period provided under Section 3.7 of this LGIP) by Transmission Provider, the application fee shall be forfeited to [the] Transmission Provider, and [the] Transmission Provider shall return the study deposit and Commercial Readiness Deposit to Interconnection Customer. Immediately following the Customer Engagement Window, Transmission Provider shall initiate the Cluster Study described in Section 7 of this LGIP.

3.4.6 Cluster Study Scoping Meeting.

During the Customer Engagement Window, Transmission Provider shall hold a Scoping Meeting with all Interconnection Customers whose valid Interconnection Requests were received in that Cluster Request Window.

The purpose of the Cluster Study Scoping Meeting shall be to discuss alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would reasonably be expected to impact such interconnection options, to discuss the Cluster Study materials posted to OASIS pursuant to Section 3.5 of this LGIP, if applicable, and to analyze such information. Transmission Provider and Interconnection Customer(s) will bring to the meeting such technical data, including, but not limited to: (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues as may be reasonably required to accomplish the purpose of the meeting. Transmission Provider and Interconnection Customer(s) will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer(s) shall designate its Point of Interconnection [and one or more available alternative Point(s) of Interconnection]. The duration of the meeting shall be sufficient to accomplish its purpose. If the Cluster Study Scoping Meeting consists of more than one Interconnection Customer, Transmission Provider shall issue, no later than fifteen (15) Business Days after the commencement of the Customer Engagement Window, and Interconnection Customer shall execute a non-disclosure agreement prior to a group Cluster Study Scoping Meeting, which will provide for confidentiality of identifying *information or* commercially sensitive information pertaining to any other Interconnection Customers.

3.5. OASIS Posting.

3.5.1 OASIS Posting.

Transmission Provider will maintain on its OASIS a list of all Interconnection Requests. The list will identify, for each Interconnection Request: (i) the maximum summer and winter megawatt electrical output; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection

will be made; (iv) the projected In-Service Date; (v) the status of the Interconnection Request, including Queue Position; (vi) the type of Interconnection Service being requested; [and] (vii) the availability of any studies related to the Interconnection Request; (viii) the date of the Interconnection Request; (ix) the type of Generating Facility to be constructed; and (x) for Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed. Except in the case of an Affiliate, the list will not disclose the identity of Interconnection Customer until Interconnection Customer executes an LGIA or requests that Transmission Provider file an unexecuted LGIA with FERC. Before holding a Scoping Meeting with its Affiliate, Transmission Provider shall post on OASIS an advance notice of its intent to do so. Transmission Provider shall post to its OASIS site any deviations from the study timelines set forth herein. Interconnection Study reports and Optional Interconnection Study reports shall be posted to Transmission Provider's OASIS site subsequent to the meeting between Interconnection Customer and Transmission Provider to discuss the applicable study results. Transmission Provider shall also post any known deviations in the Large Generating Facility's In-Service Date.

3.5.2 Requirement to Post Interconnection Study Metrics.
Transmission Provider will maintain on its OASIS or its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. For each calendar quarter, Transmission Provider[s] must calculate and post the information detailed in Sections 3.5.2.1 through 3.5.2.4 of this LGIP.

3.5.2.1 Interconnection Cluster Study Processing Time.

(A) Number of Interconnection Requests that had Cluster Studies completed within Transmission

Provider's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Cluster Studies completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than one hundred fifty (150) Calendar Days after the close of the Customer Engagement Window,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Cluster Studies where such Interconnection Requests had executed a Cluster Study Agreement received by Transmission Provider more than one hundred fifty (150) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Cluster Studies completed within Transmission Provider's coordinated region during the reporting quarter, from the commencement of the Cluster Study to the date when Transmission Provider provided the completed Cluster Study Report to Interconnection Customer,

(E) Mean time (in days), Cluster Studies were completed within Transmission Provider's coordinated region during the reporting quarter, from the close of the Cluster Request Window to the date when Transmission Provider provided the completed Cluster Study Report to Interconnection Customer,[.]

(F) Percentage of Cluster Studies exceeding one hundred fifty (150) Calendar Days to complete this reporting quarter, calculated as the sum of *Section*

3.5.2.1(B) plus *Section* 3.5.2.1(C) divided by the sum of *Section* 3.5.2.1(A) plus *Section* 3.5.2.1(C) *of this LGIP*.

3.5.2.2 Cluster Restudies Processing Time.

(A) Number of Interconnection Requests that had Cluster Restudies completed within Transmission Provider's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Cluster Restudies completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than one hundred fifty (150) Calendar Days after Transmission Provider notifies Interconnection Customers in the Cluster that a Cluster Restudy is required pursuant to Section 7.5(4) of this LGIP,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Cluster Restudies where Transmission Provider notified Interconnection Customers in the Cluster that a Cluster Restudy is required pursuant to Section 7.5(4) of this LGIP more than one hundred fifty (150) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Cluster Restudies completed within Transmission Provider's coordinated region during the reporting quarter, from the date when Transmission Provider notifies Interconnection Customers in the Cluster that a Cluster Restudy is

required pursuant to Section 7.5(4) of this LGIP to the date when Transmission Provider provided the completed Cluster Restudy Report to Interconnection Customer,

(E) Mean time (in days), Cluster Restudies completed within Transmission Provider's coordinated region during the reporting quarter, from the close of the Cluster Request Window to the date when Transmission Provider provided the completed Cluster Restudy Report to Interconnection Customer,[.]

(F) Percentage of Cluster Restudies exceeding one hundred fifty (150) Calendar Days to complete this reporting quarter, calculated as the sum of *Section* 3.5.2.2(B) plus *Section* 3.5.2.2(C) divided by the sum of *Section* 3.5.2.2(A) plus *Section* 3.5.2.2(C)[)] *of this LGIP*.

3.5.2.3 Interconnection Facilities Studies Processing Time.

(A) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Provider's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than {timeline as listed in Transmission Provider's LGIP*}* after receipt by Transmission Provider of [the] Interconnection Customer's executed Interconnection Facilities Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Service requests with ongoing incomplete Interconnection Facilities Studies where such Interconnection Requests had executed Interconnection Facilities Studies Agreement received by Transmission Provider more than {timeline as listed in Transmission Provider's LGIP} before the reporting quarter end,

(D) Mean time (in days), for Interconnection Facilities Studies completed within Transmission Provider's coordinated region during the reporting quarter, calculated from the date when Transmission Provider received the executed Interconnection Facilities Study Agreement to the date when Transmission Provider provided the completed Interconnection Facilities Study to [the] Interconnection Customer,

(E) Mean time (in days), Interconnection Facilities Studies completed within Transmission Provider's coordinated region during the reporting quarter, from the close of the Cluster Request Window to the date when Transmission Provider provided the completed Interconnection Facilities Study to Interconnection Customer,[.]

(F) Percentage of delayed Interconnection Facilities Studies this reporting quarter, calculated as the sum of *Section* 3.5.2.3(B) plus *Section* 3.5.2.3(C) divided by the sum of *Section* 3.5.2.3(A) plus *Section* 3.5.2.3(C)[)] *of this LGIP*.

3.5.2.4 Interconnection Service Requests Withdrawn from Interconnection Queue.

(A) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter,

(B) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of any [i]*I*nterconnection [s]*S*tudies or execution of any [i]*I*nterconnection [s]*S*tudy agreements,

(C) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of a Cluster Study,

(D) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of an Interconnection Facilities Study,

(E) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue after *completion of an Interconnection Facilities Study but before* execution of a*n* [generator interconnection agreement] *LGIA* or Interconnection Customer requests the filing of an unexecuted, new [interconnection agreement] *LGIA*,

(F) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue after execution of an LGIA or Interconnection Customer requests the filing of an unexecuted, new LGIA

([F]*G*) Mean time (in days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when Transmission Provider received the request to withdraw from the queue.

3.5.3

Transmission Provider is required to post on OASIS or its website the measures in [paragraph] *Section* 3.5.2.1(A) through [paragraph] *Section* 3.5.2.4([F]*G*) for each calendar quarter within *thirty (*30*) Calendar* [d]*D*ays of the end of the calendar quarter. Transmission Provider will keep the quarterly measures posted on OASIS or its website for three *(3)* calendar years with the first required report to be in the first quarter of 2020. If Transmission Provider retains this information on its website, a link to the information must be provided on Transmission Provider's OASIS site.

3.5.4

In the event that any of the values calculated in [paragraphs] *Sections* 3.5.2.1(E), 3.5.2.2(E) or 3.5.2.3(E) exceeds *twenty-five* [25] percent *(25%)* for two *(2)* consecutive calendar quarters, Transmission Provider will have to comply with the measures below for the next four *(4)* consecutive calendar quarters and must continue reporting this information until Transmission Provider reports four *(4)* consecutive calendar quarters without the values calculated in *Sections* 3.5.2.1(E), 3.5.2.2(E) or 3.5.2.3(E) exceeding [25] *twenty-five* percent *(25%)* for two *(2)* consecutive calendar quarters:

(i) Transmission Provider must submit a report to the Commission describing the reason for each Cluster Study, Cluster Restudy, or individual Interconnection Facilities Study pursuant to one or more Interconnection Request(s) that exceeded its deadline (i.e., 150, 90 or 180 *Calendar* [d]*D*ays) for completion. Transmission Provider must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The report must be filed at the

Commission within *forty-five (*45*) Calendar* [d]*D*ays of the end of the calendar quarter.

(ii) Transmission Provider shall aggregate the total number of employee-hours and third party consultant hours expended towards [i]*I*nterconnection [s]*S*tudies within its coordinated region that quarter and post on OASIS or its website. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. This information is to be posted within *thirty (*30*) Calendar* [d]*D*ays of the end of the calendar quarter.

3.6 Coordination with Affected Systems.

Transmission Provider will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System Operators. Interconnection Customer will cooperate with Transmission Provider and Affected System Operator in all matters related to the conduct of studies and the determination of modifications to Affected Systems.

A Transmission Provider whose system may be impacted by a proposed interconnection on another transmission provider's transmission system shall cooperate with [the] transmission provider with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Transmission Provider's Transmission System.

3.6.1 Initial Notification.

Transmission Provider must notify Affected System Operator of a potential Affected System impact caused by an Interconnection Request within ten (10) Business Days of the completion of the Cluster Study[or, if the potential Affected System impact is only determined in the Cluster Restudy, the completion of the Cluster Restudy].

At the time of initial notification, Transmission Provider must provide Interconnection Customer with a list of potential Affected Systems, along with relevant contact information.

3.6.2 Notification of Cluster Restudy.

Transmission Provider must notify Affected System Operator of a Cluster Restudy concurrently with its notification of such Cluster Restudy to Interconnection Customers.

3.6.3 Notification of Cluster Restudy Completion.

Upon the completion of Transmission Provider's Cluster Restudy, Transmission Provider will notify Affected System Operator of a potential Affected System impact caused by an Interconnection Request within ten (10) Business Days of the completion of the Cluster Restudy, regardless of whether that potential Affected System impact was previously identified. At the time of the notification of the completion of the Cluster Restudy to the Affected System Operator, Transmission Provider must provide Interconnection Customer with a list of potential Affected System Operators, along with relevant contact information.

3.7 Withdrawal.

Interconnection Customer may withdraw its Interconnection Request at any time by written notice of such withdrawal to Transmission Provider. In addition, if Interconnection Customer fails to adhere to all requirements of this LGIP, except as provided in Section 13.5 (Disputes), Transmission Provider shall deem the Interconnection Request to be withdrawn and shall provide written notice to Interconnection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. Upon receipt of such written notice, Interconnection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cures the deficiency or to notify Transmission Provider of its intent to pursue Dispute Resolution.

Withdrawal shall result in the loss of Interconnection Customer's Queue Position. If an Interconnection Customer disputes the withdrawal and loss

of its Queue Position, then during Dispute Resolution, Interconnection Customer's Interconnection Request is eliminated from the queue until such time that the outcome of Dispute Resolution would restore its Queue Position. An Interconnection Customer that withdraws or is deemed to have withdrawn its Interconnection Request shall pay to Transmission Provider all costs that Transmission Provider prudently incurs with respect to that Interconnection Request prior to Transmission Provider's receipt of notice described above. Interconnection Customer must pay all monies due to Transmission Provider before it is allowed to obtain any Interconnection Study data or results.

If Interconnection Customer withdraws its Interconnection Request or is deemed withdrawn by Transmission Provider under Section 3.7 of this LGIP, Transmission Provider shall (i) update the OASIS Queue Position posting; (ii) impose the Withdrawal Penalty described in Section 3.7.1 of this LGIP; and (iii) refund to Interconnection Customer any portion of the refundable portion of Interconnection Customer's study deposit that exceeds the costs that Transmission Provider has incurred, including interest calculated in accordance with Section 35.19a(a)(2) of FERC's regulations. Transmission Provider shall also refund any portion of the Commercial Readiness Deposit not applied to the Withdrawal Penalty and, if applicable, the deposit in lieu of site control. In the event of such withdrawal, Transmission Provider, subject to the confidentiality provisions of Section 13.1 of this LGIP, shall provide, at Interconnection Customer's request, all information that Transmission Provider developed for any completed study conducted up to the date of withdrawal of the Interconnection Request.

3.7.1 Withdrawal Penalty.

Interconnection Customer shall be subject to a Withdrawal Penalty if it withdraws its Interconnection Request or is deemed withdrawn, or the Generating Facility does not otherwise reach Commercial Operation unless: (1) the withdrawal does not have a material impact on the cost or timing of any Interconnection Request [with an equal or lower Queue Position]*in the same Cluster*; (2) Interconnection Customer withdraws after receiving Interconnection Customer's most recent Cluster Restudy Report and the Network Upgrade costs assigned to the Interconnection Request identified in

that report have increased by more than twenty-five percent (25%) compared to costs identified in Interconnection Customer's preceding Cluster Study Report or Cluster Restudy Report; or (3) Interconnection Customer withdraws after receiving Interconnection Customer's Interconnection Facilities Study Report and the Network Upgrade costs assigned to the Interconnection Request identified in that report have increased by more than one hundred percent (100%) compared to costs identified in the Cluster Study Report *or Cluster Restudy Report*.

3.7.1.1 Calculation of the Withdrawal Penalty.

If Interconnection Customer withdraws its Interconnection Request or is deemed withdrawn prior to the commencement of the initial Cluster Study, Interconnection Customer shall not be subject to a Withdrawal Penalty. If Interconnection Customer withdraws, is deemed withdrawn, or otherwise does not reach Commercial Operation at any point after the commencement of the initial Cluster Study, that Interconnection Customer's Withdrawal Penalty will be the greater of: (1) [the] Interconnection Customer's study deposit required under Section 3.1.1.1 of this LGIP; or (2) as follows in (a)–(d):

(a) If Interconnection Customer withdraws or is deemed withdrawn during the Cluster Study or after receipt of a Cluster Study Report, but prior to commencement of the Cluster Restudy or Interconnection Facilities Study *if no Cluster Restudy is required*, Interconnection Customer shall be charged two (2) times its actual allocated cost of all studies performed for Interconnection Customers in the Cluster up until that point in the [i]*I*nterconnection [s]*S*tudy process.

(b) If Interconnection Customer withdraws or is deemed withdrawn during the Cluster Restudy or after receipt of any applicable restudy reports issued pursuant to Section 7.5 of this LGIP, but prior to commencement of the Interconnection Facilities Study, Interconnection Customer shall be charged five percent (5%) its estimated Network Upgrade costs.

(c) If Interconnection Customer withdraws or is deemed withdrawn during the Interconnection Facilities Study, after receipt of the Interconnection Facilities Study Report issued pursuant to Section 8.3 of this LGIP, or after receipt of the draft LGIA but before Interconnection Customer has executed an LGIA or has requested that its LGIA be filed unexecuted, and has satisfied the other requirements described in Section 11.3 of this LGIP (i.e., Site Control demonstration, LGIA Deposit, reasonable evidence of one or more milestones in the development of the Generating Facility), Interconnection Customer shall be charged ten percent (10%) its estimated Network Upgrade costs.

(d) If Interconnection Customer has executed an LGIA or has requested that its LGIA be filed unexecuted and has satisfied the other requirements described in Section 11.3 of this LGIP (i.e., Site Control demonstration, LGIA Deposit, reasonable evidence of one or more milestones in the development of the Generating Facility) and subsequently withdraws its Interconnection Request or if Interconnection Customer's Generating Facility otherwise does not reach Commercial Operation, that Interconnection Customer's

Withdrawal Penalty shall be twenty percent (20%) its estimated Network Upgrade costs.

3.7.1.2 Distribution of the Withdrawal Penalty.

3.7.1.2.1 Initial Distribution of Withdrawal Penalties Prior to Assessment of Network Upgrade Costs Previously Shared with Withdrawn Interconnection Customers in the Same Cluster.

For a single [c]*C*luster, Transmission Provider shall hold all Withdrawal Penalty funds until all Interconnection Customers in that Cluster have either: (1) withdrawn or been deemed withdrawn; (2) executed an LGIA; or (3) requested an LGIA to be filed unexecuted. Any Withdrawal Penalty funds collected from the Cluster shall first be used to fund studies conducted under the Cluster Study Process for Interconnection Customers in the same Cluster that have executed the LGIA or requested the LGIA to be filed unexecuted. Next, after the Withdrawal Penalty funds are applied to relevant study costs in the same Cluster, Transmission Provider will apply the remaining Withdrawal Penalty funds to reduce net increases, for Interconnection Customers in the same Cluster, in Interconnection Customers' Network Upgrade cost assignment and associated financial security requirements under Article 11.5 of the *pro forma* LGIA attributable to the impacts of withdrawn Interconnection Customers that shared an obligation with the remaining Interconnection Customers to fund a Network Upgrade, as described in more detail in Sections 3.7.1.2.3 and 3.7.1.2.4. *The total amount of funds used to fund these studies under the Cluster Study Process or those applied to any net increases in Network Upgrade costs for Interconnection Customers in the same Cluster shall not exceed the total amount*

of Withdrawal Penalty funds collected from the Cluster.

Withdrawal Penalty funds shall first be applied as a refund to invoiced study costs for Interconnection Customers in the same Cluster that did not withdraw within *thirty (*30*)* Calendar Days of such Interconnection Customers executing their LGIA or requesting to have their LGIA filed unexecuted. Distribution of Withdrawal Penalty funds within one specific Cluster [Study]for study costs shall not exceed the total actual Cluster Study *Process* costs *for the Cluster*. Withdrawal Penalty funds applied to study costs shall be allocated within the same Cluster to Interconnection Customers in a manner consistent with [the] Transmission Provider's method in Section 13.3 of this LGIP for allocating the costs of [i]*I*nterconnection [s]*S*tudies conducted on a clustered basis. Transmission Provider shall post the balance of Withdrawal Penalty funds held by Transmission Provider but not yet dispersed on its OASIS site and update this posting on a quarterly basis.

If an Interconnection Customer withdraws after it executes, or requests the unexecuted filing of, its LGIA, Transmission Provider shall first apply such Interconnection Customer's Withdrawal Penalty funds to any restudy costs required due to [the] Interconnection Customer's withdrawal as a credit to as-yet-to be invoiced study costs to be charged to the remaining Interconnection Customers in the same Cluster in a manner consistent with [the] Transmission Provider's method in Section 13.3 of this LGIP for allocating the costs of [i]*I*nterconnection [s]*S*tudies conducted on a clustered basis. Distribution of the Withdrawal Penalty funds for such restudy costs shall not exceed the total actual restudy costs.

3.7.1.2.2 Assessment of Network Upgrade Costs Previously Shared with Withdrawn Interconnection Customers in the Same Cluster.

If Withdrawal Penalty funds remain for the same Cluster after the Withdrawal Penalty funds are applied to relevant study costs, Transmission Provider will determine if the withdrawn Interconnection Customers, at any point in the Cluster Study Process, shared cost assignment for one or more Network Upgrades with any remaining Interconnection Customers in the same Cluster based on the Cluster Study Report, Cluster Restudy Report(s), Interconnection Facilities Study Report, and any subsequent issued restudy report issued for the Cluster.

In [s]Section 3.7.1.2 of this LGIP, shared cost assignments for Network Upgrades refers to the cost of Network Upgrades still needed for the same Cluster for which an Interconnection Customer, prior to withdrawing its Interconnection Request, shared the obligation to fund along with Interconnection Customers that have executed an LGIA, or requested the LGIA to filed unexecuted.

If Transmission Provider's assessment determines that there are no shared cost assignments for any Network Upgrades in the same Cluster for the withdrawn Interconnection Customer, or determines that the withdrawn Interconnection Customer's withdrawal did not cause a net increase in the shared cost assignment for any remaining Interconnection Customers' Network Upgrade(s) in the same Cluster, Transmission Provider will return any remaining Withdrawal Penalty funds to the withdrawn Interconnection Customer(s). Such remaining Withdrawal Penalty funds will be returned to withdrawn Interconnection Customers

based on the proportion of each withdrawn Interconnection Customer's contribution to the total amount of Withdrawal Penalty funds collected for the Cluster (i.e., the total amount before the initial disbursement required under Section 3.7.1.2.1 of this LGIP). Transmission Provider must make such disbursement within sixty (60) Calendar Days of the date on which all Interconnection Customers in the same Cluster have either: (1) withdrawn or been deemed withdrawn; (2) executed an LGIA; or (3) requested an LGIA to be filed unexecuted. For the withdrawn Interconnection Customers that Transmission Provider determines have caused a net increase in the shared cost assignment for one or more Network Upgrade(s) in the same Cluster under [subs]Section 3.7.1.2.3(a) *of this LGIP*, Transmission Provider will determine each such withdrawn Interconnection Customers' Withdrawal Penalty funds remaining balance that will be applied toward net increases in Network Upgrade shared costs calculated under [subs]Sections 3.7.1.2.3(a) and 3.7.1.2.3(b) *of this LGIP* based on each such withdrawn Interconnection Customer's proportional contribution to the total amount of Withdrawal Penalty funds collected for the same Cluster (i.e., the total amount before the initial disbursement requirement under Section 3.7.1.2.1 of this LGIP).

If [the] Transmission Provider's assessment determines that there are shared cost assignments for Network Upgrades in the same Cluster, Transmission Provider will calculate the remaining Interconnection Customers' net increase in cost assignment for Network Upgrades due to a shared cost assignment for Network Upgrades with the withdrawn Interconnection Customer and distribute Withdrawal Penalty funds as described in Section 3.7.1.2.3, depending on whether the withdrawal occurred before the withdrawing Interconnection Customer executed the LGIA (or filed

unexecuted), as described in [subs]Section 3.7.1.2.3(a) *of this LGIP*, or after such execution (or filing unexecuted) of an LGIA, as described in [subs]Section 3.7.1.2.3(b) *of this LGIP*.

As discussed in [subs]Section 3.7.1.2.4 *of this LGIP*, Transmission Provider will amend executed (or filed unexecuted) LGIAs of the remaining Interconnection Customers in the same Cluster to apply the remaining Withdrawal Penalty funds to reduce net increases in Interconnection Customers' Network Upgrade cost assignment and associated financial security requirements under Article 11.5 of the pro forma LGIA attributable to the impacts of withdrawn Interconnection Customers on Interconnection Customers remaining in the same Cluster that had a shared cost assignment for Network Upgrades with the withdrawn Interconnection Customers.

3.7.1.2.3 Impact Calculations.

3.7.1.2.3(a) Impact Calculation for Withdrawals During the Cluster Study Process.

If an Interconnection Customer withdraws before it executes, or requests the unexecuted filing of, its LGIA, [the] Transmission Provider will distribute in the following manner the Withdrawal Penalty funds to reduce the Network Upgrade cost impact on the remaining Interconnection Customers in the same Cluster who had a shared cost assignment for a Network Upgrade with the withdrawn Interconnection Customer.

To calculate the reduction in the remaining Interconnection Customers' net increase in Network

Upgrade costs and associated financial security requirements under Article 11.5 of the pro forma LGIA, [the] Transmission Provider will determine the financial impact of a withdrawing Interconnection Customer on other Interconnection Customers in the same Cluster that shared an obligation to fund the same Network Upgrade(s). Transmission Provider shall calculate this financial impact once all [the] Interconnection Customers in the same Cluster either: (1) have withdrawn or have been deemed withdrawn; (2) executed an LGIA; or (3) request an LGIA to be filed unexecuted. Transmission Provider will perform the financial impact calculation using the following steps.

First, Transmission Provider must determine which withdrawn Interconnection Customers shared an obligation to fund Network Upgrades with Interconnection Customers from the same Cluster that have LGIAs that are executed or have been requested to be filed unexecuted. Next, Transmission Provider shall perform the calculation of the financial impact of a withdrawal on another Interconnection Request in the same Cluster by performing a comparison of the Network Upgrade cost estimates between each of the following:

(1) Cluster Study phase to Cluster Restudy phase (if Cluster Restudy was necessary);

(2) Cluster Restudy phase to *Interconnection* Facilities Study phase (if a Cluster Restudy was necessary);

(3) Cluster Study phase to *Interconnection* Facilities Study phase (if no Cluster Restudy was performed);

(4) *Interconnection* Facilities Study phase to any subsequent restudy that was performed before the execution or filing of an unexecuted LGIA;

(5) the restudy to the executed, or filed unexecuted, LGIA (if a restudy was performed after the *Interconnection* Facilities Study phase and before the execution or filing of an unexecuted LGIA).

If, based on the above calculations, Transmission Provider determines:

(i) that the costs assigned to an Interconnection Customer in the same Cluster for Network Upgrades that a withdrawn Interconnection Customer shared cost assignment for increased between any two studies, and

(ii) after the impacted Interconnection Customer's LGIA was executed or filed unexecuted, [the] Interconnection Customer's cost assignment for the relevant Network Upgrade is greater than it was prior to the withdrawal of [the] Interconnection Customer in the same Cluster that shared cost assignment for the Network Upgrade,

then Transmission Provider shall apply the withdrawn Interconnection Customer's Withdrawal Penalty funds that has not already been applied to study costs in the amount of the financial impact by reducing, in the same Cluster, the remaining Interconnection Customer's Network Upgrade costs and associated financial security requirements under Article 11.5 of the *pro forma* LGIA.

If Transmission Provider determines that more than one Interconnection Customer in the same Cluster was financially impacted by the same withdrawn Interconnection Customer, Transmission Provider will apply the relevant withdrawn Interconnection Customer's Withdrawal Penalty funds that has not already been applied to study costs to reduce the financial impact to each Interconnection Customer based on each Interconnection Customer's proportional share of the financial impact, as determined by either the [p]*P*roportional [i]*I*mpact [m]*M*ethod if it is a System Network Upgrade or on a per capita basis if it is a Substation Network Upgrade, as described under Section 4.2.1 of this LGIP.

3.7.1.2.3(b) Impact Calculation for Withdrawals in the Same Cluster After the Cluster Study Process.

If an Interconnection Customer withdraws after it executes, or requests the unexecuted filing of, its LGIA, Transmission Provider will distribute in the following manner the remaining Withdrawal Penalty funds to reduce the Network Upgrade cost impact on the remaining Interconnection Customers in the same Cluster who had a shared cost assignment with the withdrawn Interconnection Customer for one or more Network Upgrades.

Transmission Provider will determine the financial impact on the remaining Interconnection Customers in the same Cluster within *thirty (*30*)* [c]*C*alendar [d]*D*ays after the withdrawal occurs. [The] Transmission Provider will determine that financial impact by comparing the Network Upgrade cost funding obligations [the] Interconnection Customers shared with the withdrawn Interconnection Customer before the withdrawal of [the] Interconnection

Customer and after the withdrawal of [the] Interconnection Customer. If that comparison indicates an increase in Network Upgrade costs for an Interconnection Customer, Transmission Provider shall apply the withdrawn Interconnection Customer's Withdrawal Penalty funds to the increased costs each impacted Interconnection Customer in the same Cluster experienced associated with such Network Upgrade(s) in proportion to each Interconnection Customer's increased cost assignment, as determined by Transmission Provider.

3.7.1.2.4 Amending LGIA to Apply Reductions to Interconnection Customer's Assigned Network Upgrade Costs and Associated Financial Security Requirement with Respect to Withdrawals in the Same Cluster.

Within *thirty (*30*)* Calendar Days of all Interconnection Customers in the same Cluster having: (1) withdrawn or been deemed withdrawn; (2) executed an LGIA; or (3) requested an LGIA to be filed unexecuted, Transmission Provider must perform the calculations described in [subs]*S*ection 3.7.1.2.3(a) of this LGIP and provide such Interconnection Customers with an amended LGIA that provides the reduction in Network Upgrade cost assignment and associated reduction to [the] Interconnection Customer's financial security requirements, under Article 11.5 of the pro forma LGIA, due from [the] Interconnection Customer to [the] Transmission Provider.

Where an Interconnection Customer executes the LGIA (or requests the filing of an unexecuted LGIA) and is later withdrawn or its LGIA is terminated, Transmission Provider must, within *thirty (*30*)* Calendar Days of such withdrawal or termination, perform the calculations described in [subs]*S*ection

3.7.1.2.3(b) of this LGIP and provide such Interconnection Customers in the same Cluster with an amended LGIA that provides the reduction in Network Upgrade cost assignment and associated reduction to [the] Interconnection Customer's financial security requirements, under Article 11.5 of the pro forma LGIA, due from [the] Interconnection Customer to Transmission Provider.

Any repayment by Transmission Provider to Interconnection Customer under Article 11.4 of the pro forma LGIA of amounts advanced for Network Upgrades after the Generating Facility achieves Commercial Operation shall be limited to [the] Interconnection Customer's total amount of Network Upgrade costs paid and associated financial security provided to Transmission Provider under Article 11.5 of the pro forma LGIA.

3.7.1.2.5 Final Distribution of Withdrawal Penalty Funds.

If Withdrawal Penalty funds remain for the Cluster after the Withdrawal Penalty funds are applied to relevant study costs and net increases in shared cost assignments for Network Upgrades to remaining Interconnection Customers, Transmission Provider will return any remaining Withdrawal Penalty funds to the withdrawn Interconnection Customers in the same Cluster net of the amount of each withdrawn Interconnection Customer's Withdrawal Penalty funds applied to study costs and net increases in shared cost assignments for Network Upgrades to remaining Interconnection Customers.

3.8 Identification of Contingent Facilities.

Transmission Provider shall post in this section a method for identifying the Contingent Facilities to be provided to Interconnection Customer at the

conclusion of the Cluster Study and included in Interconnection Customer's Large Generator Interconnection Agreement. The method shall be sufficiently transparent to determine why a specific Contingent Facility was identified and how it relates to the Interconnection Request. Transmission Provider shall also provide, upon request of Interconnection Customer, the estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time of each identified Contingent Facility when this information is readily available and not commercially sensitive.

3.9 Penalties for Failure to Meet Study Deadlines.

(1) Transmission Provider shall be subject to a penalty if it fails to complete a Cluster Study, Cluster Restudy, Interconnection Facilities Study, or Affected Systems Study by the applicable deadline set forth in this LGIP. Transmission Provider must pay the penalty for each late Cluster Study, Cluster Restudy, and Interconnection Facilities Study on a pro rata basis per Interconnection Request to all Interconnection Customer(s) included in the relevant study that did not withdraw, or were not deemed withdrawn, from Transmission Provider's interconnection queue before the missed study deadline, *in proportion to each Interconnection Customer's final study cost*. Transmission Provider must pay the penalty for a late Affected Systems Study on a pro rata basis per interconnection request to all Affected System Interconnection Customer(s) included in the relevant Affected System Study that did not withdraw, or were not deemed withdrawn, from the host transmission provider's interconnection queue before the missed study deadline, *in proportion to each Interconnection Customer's final study cost*. The study delay penalty for each late study shall be distributed no later than forty-five (45) Calendar Days after the late study has been completed.

(2) For penalties assessed in accordance with this Section, the penalty amount will be equal to: $1,000 per Business Day for delays of Cluster Studies beyond the applicable deadline set forth in this LGIP; $2,000 per Business Day for delays of Cluster Re[-S]studies beyond the applicable deadline set forth in this LGIP; $2,000 per Business Day for delays of Affected System Studies beyond the applicable deadline set forth in this LGIP; and $2,500 per Business Day for delays of Interconnection Facilities Studies beyond the applicable deadline set forth in this LGIP. The total

amount of a penalty assessed under this Section shall not exceed: (a) one hundred percent (100%) of the initial study deposit(s) received for all of the Interconnection Requests in the Cluster for Cluster Studies and Cluster Restudies; (b) one hundred percent (100%) of the initial study deposit received for the single Interconnection Request in the study for *Interconnection* Facilities Studies; and (c) one hundred percent (100%) of the study deposit(s) that Transmission Provider collects for conducting the Affected System Study.

(3) Transmission Provider may appeal to the Commission any penalties imposed under this Section. Any such appeal must be filed no later than forty-five (45) Calendar Days after the late study has been completed. While an appeal to the Commission is pending, Transmission Provider shall remain liable for the penalty, but need not distribute the penalty until forty-five (45) Calendar Days after (1) the deadline for filing a rehearing request has ended, if no requests for rehearing of the appeal have been filed, or (2) the date that any requests for rehearing of the Commission's decision on the appeal are no longer pending before the Commission. The Commission may excuse Transmission Provider from penalties under this Section for good cause.

(4) No penalty will be assessed under this Section where a study is delayed by ten (10) Business Days or less. If the study is delayed by more than ten (10) Business Days, the penalty amount will be calculated from the first Business Day [the] Transmission Provider misses the applicable study deadline.

(5) If (a) Transmission Provider needs to extend the deadline for a particular study subject to penalties under this Section and (b) all Interconnection Customers or Affected System Interconnection Customers included in the relevant study mutually agree to such an extension, the deadline for that study shall be extended thirty (30) Business Days from the original deadline. In such a scenario, no penalty will be assessed for Transmission Provider missing the original deadline.

(6) No penalties shall be assessed until the third Cluster Study cycle (including any Transitional Cluster Study cycle, but not Transitional Serial *Interconnection Facilities* Studies) after the Commission-approved effective date of Transmission Provider's filing made in compliance with the Final Rule in Docket No. RM22-14-000.

(7) Transmission Provider must maintain on its OASIS or its public website summary statistics related to penalties assessed under this Section, updated quarterly. For each calendar quarter, Transmission Provider must calculate and post (1) the total amount of penalties assessed under this Section during the previous reporting quarter and (2) the highest penalty assessed under this Section paid to a single Interconnection Customer or Affected System Interconnection Customer during the previous reporting quarter. Transmission Provider must post on its OASIS or its website these penalty amounts for each calendar quarter within thirty (30) Calendar Days of the end of the calendar quarter. Transmission Provider must maintain the quarterly measures posted on its OASIS or its website for three (3) calendar years with the first required posting to be the third Cluster Study cycle (including any Transitional Cluster Study cycle, but not Transitional Serial *Interconnection Facilities* Studies) after Transmission Provider transitions to the Cluster Study Process.

Section 4. Interconnection Request Evaluation Process.

Once an Interconnection Customer has submitted a valid Interconnection Request pursuant to Section 3.4 of this LGIP, such Interconnection Request shall become part of [the] Transmission Provider's interconnection queue for further processing pursuant to the following procedures.

4.1 Queue Position.

4.1.1 Assignment of Queue Position.

Transmission Provider shall assign a Queue Position as follows: the Queue Position within the queue shall be assigned based upon the

date and time of receipt of all items required pursuant to the provisions of Section 3.4 of this LGIP. All Interconnection Requests submitted and validated in a single Cluster Request Window shall be considered equally queued.

4.1.2 Higher Queue Position.

A higher Queue Position assigned to an Interconnection Request is one that has been placed "earlier" in the queue in relation to another Interconnection Request that is assigned a lower Queue Position. All requests studied in a single Cluster shall be considered equally queued. Interconnection Customers that are part of Clusters initiated earlier in time than an instant [Q]*q*ueue shall be considered to have a higher Queue Position than Interconnection Customers that are part of Clusters initiated later than an instant [Q]*q*ueue.

4.2. General Study Process.

Interconnection Studies performed within the Cluster Study Process shall be conducted in such a manner to ensure the efficient implementation of the applicable regional transmission expansion plan in light of the Transmission System's capabilities at the time of each study and consistent with Good Utility Practice.

Transmission Provider may use subgroups in the Cluster Study Process. In all instances in which Transmission Provider elects to use subgroups in the [c]*C*luster [s]*S*tudy [p]*P*rocess, Transmission Provider must publish the criteria used to define and determine subgroups on its OASIS or public website.

4.2.1 Cost Allocation for Interconnection Facilities and Network Upgrades.

(1) For Network Upgrades identified in Cluster Studies, Transmission Provider shall calculate each Interconnection Customer's share of the costs as follows:

(a) Substation Network Upgrades, including all switching stations, shall be allocated *first* per capita *to Interconnection Facilities interconnecting to the substation at the same voltage level, and then per capita* to each Generating Facility *sharing the Interconnection Facility* [interconnecting at the same substation].

(b) System Network Upgrades shall be allocated based on the proportional impact of each individual Generating Facility in the Cluster Study on the need for a specific System Network Upgrade. {Transmission Provider shall include in this section a description of how cost for each facility type designated as a network upgrade will be allocated using its proportional impact method.}

(c) An Interconnection Customer that funds Substation Network Upgrades and/or System Network Upgrades shall be entitled to transmission credits as provided in Article 11.4 of the LGIA.

(2) The costs of any needed Interconnection Facilities identified in the Cluster Study Process will be directly assigned to [the] Interconnection Customer(s) using such facilities. Where Interconnection Customers in the Cluster agree to share Interconnection Facilities, the cost of such Interconnection Facilities shall be allocated based on the number of Generating Facilities sharing use of such Interconnection Facilities on a per capita basis (i.e., on a per Generating Facility basis), unless Parties mutually agree to a different cost sharing arrangement.

4.3 Transferability of Queue Position.

An Interconnection Customer may transfer its Queue Position to another entity only if such entity acquires the specific Generating Facility identified in the Interconnection Request and the Point of Interconnection does not change.

4.4 Modifications.

Interconnection Customer shall submit to Transmission Provider, in writing, modifications to any information provided in the Interconnection Request. Interconnection Customer shall retain its Queue Position if the modifications are in accordance with Sections 4.4.1, 4.4.2, or 4.4.5 of this LGIP, or are determined not to be Material Modifications pursuant to Section 4.4.3 of this LGIP.

Notwithstanding the above, during the course of the Interconnection Studies, either Interconnection Customer or Transmission Provider may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes are acceptable to Transmission Provider and Interconnection Customer, such acceptance not to be unreasonably withheld, Transmission Provider shall modify the Point of Interconnection prior to return of the executed Cluster Study Agreement, and Interconnection Customer shall retain its Queue Position.

4.4.1 Prior to the return of the executed Cluster Study Agreement to Transmission Provider, modifications permitted under this Section shall include specifically: (a) a decrease of up to [60] *sixty* percent *(60%)* of electrical output (MW) of the proposed project, through either (1) a decrease in plant size or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1 of this LGIP) accomplished by applying Transmission Provider-approved injection-limiting equipment; (b) modifying the technical parameters associated with the Large Generating Facility technology or the Large Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. For plant increases, the incremental increase in plant output will go in the next Cluster [Study]*Request* Window for the purposes of cost allocation and study analysis.

4.4.2 Prior to the return of the executed Interconnection Facilities Study Agreement to Transmission Provider, the modifications permitted under this Section shall include specifically: (a) additional [15] *fifteen* percent *(15%)* decrease of electrical output of the proposed project through either (1) a decrease in plant size (MW) or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment; (b) Large Generating Facility technical parameters associated with modifications to Large Generating Facility technology and transformer impedances; provided, however, the incremental costs associated with those modifications are the responsibility of the requesting Interconnection Customer; and (c) a Permissible Technological Advancement for the Large Generating Facility after the submission of the Interconnection Request. Section 4.4.6 *of this LGIP* specifies a separate technological change procedure including the requisite information and process that will be followed to assess whether [the] Interconnection Customer's proposed technological advancement under Section 4.4.2(c) *of this LGIP* is a Material Modification. Section 1 *of this LGIP* contains a definition of Permissible Technological Advancement.

4.4.3 Prior to making any modification other than those specifically permitted by Sections 4.4.1, 4.4.2, and 4.4.5 of this LGIP, Interconnection Customer may first request that Transmission Provider evaluate whether such modification is a Material Modification. In response to Interconnection Customer's request, Transmission Provider shall evaluate the proposed modifications prior to making them and inform Interconnection Customer in writing of whether the modifications would constitute a Material Modification. Any change to the Point of Interconnection, except those deemed acceptable under Sections 3.1.2 or 4.4 of this LGIP or so allowed elsewhere, shall constitute a Material Modification. Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification. Transmission Provider shall study the addition of a Generating Facility that includes at least one electric storage resource using operating assumptions (i.e., whether the interconnecting Generating Facility will or will not charge at peak

load) that reflect the proposed charging behavior of the Generating Facility as requested by Interconnection Customer, unless Transmission Provider determines that Good Utility Practice, including Applicable Reliability Standards, otherwise requires the use of different operating assumptions.

{Transmission Providers using fuel-based dispatch assumptions in Interconnection Studies are not required to include Section 4.4.3.1 because it does not apply to them}

4.4.3.1 Interconnection Customer may request, and Transmission Provider shall evaluate, the addition to the Interconnection Request of a Generating Facility with the same Point of Interconnection indicated in the initial Interconnection Request, if the addition of the Generating Facility does not increase the requested Interconnection Service level. Transmission Provider must evaluate such modifications prior to deeming them a Material Modification, but only if Interconnection Customer submits them prior to the return of the executed *Interconnection* Facilities Study Agreement by Interconnection Customer to Transmission Provider. Interconnection Customers requesting that such a modification be evaluated must demonstrate the required Site Control at the time such request is made.

4.4.4 Upon receipt of Interconnection Customer's request for modification permitted under this Section 4.4 *of this LGIP*, Transmission Provider shall commence and perform any necessary additional studies as soon as practicable, but in no event shall Transmission Provider commence such studies later than thirty (30) Calendar Days after receiving notice of Interconnection Customer's request. Any additional studies resulting from such modification shall be done at Interconnection Customer's cost. Any such request for modification of the Interconnection Request must be accompanied by any

resulting updates to the models described in Attachment A to Appendix 1 of this LGIP.

4.4.5 Extensions of less than three (3) cumulative years in the Commercial Operation Date of the Large Generating Facility to which the Interconnection Request relates are not material and should be handled through construction sequencing. For purposes of this section, the Commercial Operation Date reflected in the initial Interconnection Request shall be used to calculate the permissible extension prior to Interconnection Customer executing an LGIA or requesting that the LGIA be filed unexecuted. After an LGIA is executed or requested to be filed unexecuted, the Commercial Operation Date reflected in the LGIA shall be used to calculate the permissible extension. Such cumulative extensions may not exceed three years including both extensions requested after execution of the LGIA by Interconnection Customer or the filing of an unexecuted LGIA by Transmission Provider and those requested prior to execution of the LGIA by Interconnection Customer or the filing of an unexecuted LGIA by Transmission Provider.

4.4.6 Technological Change Procedures

{Insert technological change procedure here}

Section 5. Procedures for Interconnection Requests Submitted Prior to Effective Date of the Cluster Study Revisions

5.1 Procedures for Transitioning to the Cluster Study Process.

5.1.1 Any Interconnection Customer assigned a Queue Position as of thirty (30) Calendar Days after {Transmission Provider to insert filing date} (the filing date of this LGIP) shall retain that Queue Position subject to the requirements in Sections 5.1.1.1 and 5.1.1.2 of this LGIP. Any Interconnection Customer that fails to meet these requirements shall have its Interconnection Request deemed withdrawn by Transmission Provider pursuant to Section 3.7 of this

LGIP. In such case, Transmission Provider shall not assess [the] Interconnection Customer any Withdrawal Penalty.

Any Interconnection Customer that has received a final Interconnection Facilities Study Report before the commencement of the studies under the transition process set forth in this [s]Section shall be tendered an LGIA pursuant to Section 11 of this LGIP, and shall not be required to enter this transition process.

5.1.1.1 Transitional Serial Study.

An Interconnection Customer that has been tendered an Interconnection Facilities Study Agreement as of thirty (30) Calendar Days after {Transmission Provider to insert filing date} (the filing date of this LGIP) may opt to proceed with an Interconnection Facilities Study. Transmission Provider shall tender each eligible Interconnection Customer a Transitional Serial Interconnection Facilities Study Agreement, in the form of Appendix 8 to this LGIP, no later than the Commission-approved effective date of this LGIP. Transmission Provider shall proceed with the Interconnection Facilities Study, provided that [the] Interconnection Customer: (1) meets each of the following requirements; and (2) executes the Transitional Serial Interconnection Facilities Study Agreement within sixty (60) Calendar Days of the Commission-approved effective date of this LGIP. If an eligible Interconnection Customer does not meet these requirements, its Interconnection Request shall be deemed withdrawn without penalty. Transmission Provider must commence the Transitional Serial Interconnection Facilities Study at the conclusion of this sixty (60) Calendar Day period. Transitional Serial Interconnection Facilities Study costs shall be allocated according to the method described in Section 13.3 of this LGIP.

All of the following must be included when an Interconnection Customer returns the Transitional Serial Interconnection Facilities Study Agreement:

(1) A deposit equal to one hundred percent (100%) of the costs identified for Transmission Provider's Interconnection Facilities and Network Upgrades in Interconnection Customer's system impact study report. If Interconnection Customer does not withdraw, the deposit shall be trued up to actual costs once they are known and applied to future construction costs described in Interconnection Customer's eventual LGIA. Any amounts in excess of the actual construction costs shall be returned to Interconnection Customer within thirty (30) Calendar Days of the issuance of a final invoice for construction costs, in accordance with Article 12.2 of the pro forma LGIA. If Interconnection Customer withdraws or otherwise does not reach Commercial Operation, Transmission Provider shall refund the remaining deposit after the final invoice for study costs and *Transitional* Withdrawal Penalty is settled. The deposit shall be in the form of an irrevocable letter of credit,[or] cash, *a surety bond, or other form of security that is reasonably acceptable to Transmission Provider,* where cash deposits shall be treated according to Section 3.7 of this LGIP.

(2) Exclusive Site Control for 100% of the proposed Generating Facility.

Transmission Provider shall conduct each Transitional Serial Interconnection Facilities Study and issue the associated Transitional Serial Interconnection Facilities Study Report within one hundred fifty (150) Calendar Days of the Commission-approved effective date of this LGIP.

After Transmission Provider issues each Transitional Interconnection Facilities Study Report, Interconnection Customer shall proceed pursuant to Section 11 of this LGIP. If Interconnection Customer withdraws its Interconnection Request or if Interconnection Customer's Generating Facility otherwise does not reach Commercial Operation, a *Transitional* Withdrawal Penalty shall be imposed on Interconnection Customer equal to nine (9) times Interconnection Customer's total study cost incurred since entering [the] Transmission Provider's interconnection queue (including the cost of studies conducted under Section 5 of this LGIP).

5.1.1.2 Transitional Cluster Study.

An Interconnection Customer with an assigned Queue Position as of thirty (30) Calendar Days after {Transmission Provider to insert filing date} (the filing date of this LGIP) may opt to proceed with a Transitional Cluster Study. Transmission Provider shall tender each eligible Interconnection Customer a Transitional Cluster Study Agreement, in the form of Appendix 7 to this LGIP, no later than the Commission-approved effective date of this LGIP. Transmission Provider shall proceed with the Transitional Cluster Study that includes each Interconnection Customer that: (1) meets each of the following requirements listed as (1)–(3) in this section; and (2) executes the Transitional Cluster Study Agreement within sixty (60) Calendar Days of the Commission-approved effective date of this LGIP. All Interconnection Requests that enter the Transitional Cluster Study shall be considered to have an equal Queue Position that is lower than Interconnection Customer(s) proceeding with Transitional Serial Interconnection Facilities Study. If an eligible Interconnection Customer does not meet these

requirements, its Interconnection Request shall be deemed withdrawn without penalty. Transmission Provider must commence the Transitional Cluster Study at the conclusion of this sixty (60) Calendar Day period. All identified Transmission Provider's Interconnection Facilities and Network Upgrade costs shall be allocated according to Section 4.2.1 of this LGIP. Transitional Cluster Study costs shall be allocated according to the method described in Section 13.3 of this LGIP.

Interconnection Customer may make a one-time extension to its requested Commercial Operation Date upon entry into the Transitional Cluster Study, where any such extension shall not result in a Commercial Operation Date later than December 31, 2027.

All of the following must be included when an Interconnection Customer returns the Transitional Cluster Study Agreement:

(1) A selection of either Energy Resource Interconnection Service or Network Resource Interconnection Service.

(2) A deposit of five million dollars ($5,000,000) in the form of an irrevocable letter of credit,[or] cash, *a surety bond, or other form of security that is reasonably acceptable to Transmission Provider,* where cash deposits will be treated according to Section 3.7 of this LGIP. If Interconnection Customer does not withdraw, the deposit shall be reconciled with and applied towards future construction costs described in the LGIA. Any amounts in excess of the actual construction costs shall be returned to Interconnection Customer within thirty (30) Calendar

Days of the issuance of a final invoice for construction costs, in accordance with Article 12.2 of the pro forma LGIA. If Interconnection Customer withdraws or otherwise does not reach Commercial Operation, Transmission Provider must refund the remaining deposit once the final invoice for study costs and *Transitional* Withdrawal Penalty is settled.

(3) Exclusive Site Control for 100% of the proposed Generating Facility.

Transmission Provider shall conduct the Transitional Cluster Study and issue both an associated interim Transitional Cluster Study Report and an associated final Transitional Cluster Study Report. The interim Transitional Cluster Study Report shall provide the following information:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

- identification of any thermal overload or voltage limit violations resulting from the interconnection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection; and

- Transmission Provider's Interconnection Facilities and Network Upgrades that are expected to be required as a result of the Interconnection Request(s) and a non-binding, good faith estimate of cost responsibility and a non-binding, good faith estimated time to construct.

In addition to the information provided in the interim Transitional Cluster Study Report, the final Transitional Cluster Study Report shall provide a description of, estimated cost of, and schedule for construction of [the] Transmission Provider's Interconnection Facilities and Network Upgrades required to interconnect the Generating Facility to the Transmission System that resolve issues identified in the interim Transitional Cluster Study Report.

The interim and final Transitional Cluster Study Reports shall be issued within three hundred (300) and three hundred sixty (360) Calendar Days of the Commission-approved effective date of this LGIP, respectively, and shall be posted on Transmission Provider's OASIS consistent with the posting of other study results pursuant to Section 3.5.1 of this LGIP. Interconnection Customer shall have thirty (30) Calendar Days to comment on the interim Transitional Cluster Study Report, once it has been received.

After Transmission Provider issues the final Transitional Cluster Study Report, Interconnection Customer shall proceed pursuant to Section 11 of this LGIP. If Interconnection Customer withdraws its Interconnection Request or if Interconnection Customer's Generating Facility otherwise does not reach Commercial Operation, a *Transitional* Withdrawal Penalty will be imposed o*n*[m] Interconnection Customer equal to nine (9) times Interconnection Customer's total study cost incurred since entering [the] Transmission Provider's interconnection queue (including the cost of studies conducted under Section 5 of this LGIP).

5.1.2 Transmission Providers with Existing Cluster Study Processes or Currently in Transition

If Transmission Provider is not conducting a transition process under Section 5.1.1, it will continue processing Interconnection Requests under its current Cluster Study Process. Within sixty (60) Calendar Days of the Commission-approved effective date of this LGIP, Interconnection Customers that have not executed an LGIA or requested an LGIA to be filed unexecuted must meet the requirements of Sections 3.4.2, 7.5, or 8.1 of this LGIP, based on Interconnection Customer's Queue Position.

Any Interconnection Customer that fails to meet these requirements within sixty (60) Calendar Days of the Commission-approved effective date of this LGIP shall have its Interconnection Request deemed withdrawn by Transmission Provider pursuant to Section 3.7 of this LGIP. In such case, Transmission Provider shall not assess Interconnection Customer any Withdrawal Penalty.

5.2 New Transmission Provider.

If Transmission Provider transfers control of its Transmission System to a successor Transmission Provider during the period when an Interconnection Request is pending, the original Transmission Provider shall transfer to the successor Transmission Provider any amount of the deposit or payment with interest thereon that exceeds the cost that it incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by this LGIP shall be paid by or refunded to [the] Interconnection Customer, as appropriate. The original Transmission Provider shall coordinate with the successor Transmission Provider to complete any Interconnection Study, as appropriate, that the original Transmission Provider has begun but has not completed. If Transmission Provider has tendered a draft LGIA to Interconnection Customer but Interconnection Customer has not either executed the LGIA or requested the filing of an unexecuted LGIA with FERC, unless otherwise provided, Interconnection Customer must complete negotiations with the successor Transmission Provider.

Section 6. Interconnection Information Access

6.1 Publicly Posted Interconnection Information.

Transmission Provider shall maintain and make publicly available: (1) an interactive visual representation of the estimated incremental injection capacity (in megawatts*)* available at each point of interconnection in Transmission Provider's footprint under N-1 conditions, and (2) a table of metrics concerning the estimated impact of a potential Generating Facility on Transmission Provider's Transmission System based on a user-specified addition of a particular number of megawatts at a particular voltage level at a particular point of interconnection. At a minimum, for each transmission facility impacted by the user-specified megawatt addition, the following information will be provided in the table: (1) the distribution factor; (2) the megawatt impact (based on the megawatt values of the proposed Generating Facility and the distribution factor); (3) the percentage impact on each impacted transmission facility (based on the megawatt values of the proposed Generating Facility and the facility rating); (4) the percentage of power flow on each impacted transmission facility before the injection of the proposed project; (5) the percentage power flow on each impacted transmission facility after the injection of the proposed Generating Facility. These metrics must be calculated based on the power flow model of the Transmission System with the transfer simulated from each point of interconnection to the whole Transmission Provider's footprint (to approximate Network Resource Interconnection Service), and with the incremental capacity at each point of interconnection decremented by the existing and queued Generating Facilities (based on the existing or requested interconnection service limit of the generation). These metrics must be updated within thirty (30) Calendar Days after the completion of each Cluster Study and Cluster Restudy. This information must be publicly posted, without a password or a fee. The website will define all underlying assumptions, including the name of the most recent Cluster Study or Restudy used in the Base Case.

Section 7. Cluster Study

7.1 Cluster Study Agreement.

No later than five (5) Business Days after the close of a Cluster Request Window, Transmission Provider shall tender to each Interconnection Customer that submitted a valid Interconnection Request a Cluster Study Agreement in the form of Appendix 2 to this LGIP. The Cluster Study Agreement shall require Interconnection Customer to compensate Transmission Provider for the actual cost of the Cluster Study pursuant to

Section 13.3 of this LGIP. The specifications, assumptions, or other provisions in the appendices of the Cluster Study Agreement provided pursuant to Section 7.1 of this LGIP shall be subject to change by Transmission Provider following the conclusion of the Scoping Meeting.

7.2 Execution of Cluster Study Agreement.

Interconnection Customer shall execute the Cluster Study Agreement and deliver the executed Cluster Study Agreement to Transmission Provider no later than the close of the Customer Engagement Window.

If Interconnection Customer does not provide all required technical data when it delivers the Cluster Study Agreement, Transmission Provider shall notify Interconnection Customer of the deficiency within five (5) Business Days of the receipt of the executed Cluster Study Agreement and Interconnection Customer shall cure the deficiency within ten (10) Business Days of receipt of the notice, provided, however, such deficiency does not include failure to deliver the executed Cluster Study Agreement or [S]study [D]*d*eposit.

7.3 Scope of Cluster Study.

The Cluster Study shall evaluate the impact of the proposed interconnection on the reliability of the Transmission System. The Cluster Study will consider the Base Case as well as all Generating Facilities (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued interconnection) that, on the date the Cluster Study is commenced: (i) are directly interconnected to the Transmission System; (ii) are interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System; and (iv) have no Queue Position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC.

For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Cluster Study shall use the level of Interconnection Service requested by Interconnection Customers in the Cluster, except

where [the] Transmission Provider otherwise determines that it must study the full Generating Facility Capacity due to safety or reliability concerns.

The Cluster Study will consist of power flow, stability, and short circuit analyses, the results of which are documented in a single Cluster Study Report, as applicable. At the conclusion of the Cluster Study, Transmission Provider shall issue a Cluster Study Report. The Cluster Study Report will state the assumptions upon which it is based; state the results of the analyses; and provide the requirements or potential impediments to providing the requested [i]*I*nterconnection [s]*S*ervice, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. The Cluster Study Report shall identify the Interconnection Facilities and Network Upgrades expected to be required to reliably interconnect the Generating Facilities in that Cluster Study at the requested Interconnection Service level and shall provide non-binding cost estimates for required Network Upgrades. The Cluster Study Report shall identify each Interconnection Customer's estimated allocated costs for Interconnection Facilities and Network Upgrades pursuant to the method in Section 4.2.1 of this LGIP. Transmission Provider shall hold an open stakeholder meeting pursuant to Section 7.4 of this LGIP.

For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Cluster Study shall use operating assumptions (i.e., whether the interconnecting Generating Facility will or will not charge at peak load) that reflect the proposed charging behavior of a Generating Facility that includes at least one electric storage resource as requested by Interconnection Customer, unless Transmission Provider determines that Good Utility Practice, including Applicable Reliability Standards, otherwise requires the use of different operating assumptions. Transmission Provider may require the inclusion of control technologies sufficient to limit the operation of the Generating Facility per the operating assumptions as set forth in the Interconnection Request and to respond to dispatch instructions by Transmission Provider. As determined by Transmission Provider, Interconnection Customer may be subject to testing and validation of those control technologies consistent with Article 6 of the LGIA.

[The Cluster Study Report will provide a list of facilities that are required as a result of the Interconnection Requests within the Cluster and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct.]

[Upon issuance of a Cluster Study Report, or Cluster Restudy Report, if any, Transmission Provider shall simultaneously tender a draft Interconnection Facilities Study Agreement to each Interconnection Customer within the Cluster, subject to the conditions in Section 8.1 of this LGIP.]

The Cluster Study shall evaluate the use of static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting. Transmission Provider shall *evaluate each identified alternative transmission technology and* determine whether the above technologies should be used, consistent with Good Utility Practice*, Applicable Reliability Standards,* and *Applicable Laws and Regulations*[other applicable regulatory requirements]. Transmission Provider shall include an explanation of the results of [the] Transmission Provider's evaluation for each technology in the Cluster Study Report.

The Cluster Study Report will provide a list of facilities that are required as a result of the Interconnection Requests within the Cluster and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct.

7.4 Cluster Study Procedures.

Transmission Provider shall coordinate the Cluster Study with any Affected System *Operator* that is affected by the Interconnection Request pursuant to Section 3.6 of this LGIP. Transmission Provider shall utilize existing studies to the extent practicable when it performs the Cluster Study. Interconnection Requests for a Cluster Study may be submitted only within the Cluster Request Window and Transmission Provider shall initiate the Cluster Study [p]*P*rocess pursuant to Section 7 of this LGIP.

Transmission Provider shall complete the Cluster Study within one hundred fifty (150) Calendar Days of the close of the Customer Engagement Window.

Within ten (10) Business Days of simultaneously furnishing a Cluster Study Report to each Interconnection Customer within the Cluster and posting such report on OASIS, Transmission Provider shall convene a Cluster Study Report Meeting.

At the request of Interconnection Customer or at any time Transmission Provider determines that it will not meet the required time frame for completing the Cluster Study, Transmission Provider shall notify Interconnection Customers as to the schedule status of the Cluster Study. If Transmission Provider is unable to complete the Cluster Study within the time period, it shall notify Interconnection Customers and provide an estimated completion date with an explanation of the reasons why additional time is required. Upon request, Transmission Provider shall provide Interconnection Customers all supporting documentation, workpapers and relevant pre-Interconnection Request and post-Interconnection Request power flow, short circuit and stability databases for the Cluster Study, subject to confidentiality arrangements consistent with Section 13.1 of this LGIP.

7.5 Cluster Study Restudies.

(1) Within twenty (20) Calendar Days after the Cluster Study Report Meeting, Interconnection Customer must provide the following:

(a) Demonstration of continued Site Control pursuant to Section 3.4.2(iii) of this LGIP; and

(b) An additional deposit that brings the total Commercial Readiness Deposit submitted to Transmission Provider to five percent (5%) of [the] Interconnection Customer's Network Upgrade cost assignment identified in the Cluster Study in the form of an irrevocable letter of credit,[or] cash, *a surety bond, or other form of security that is*

reasonably acceptable to Transmission Provider. Transmission Provider shall refund the deposit to Interconnection Customer upon withdrawal in accordance with Section 3.7 of this LGIP.

Interconnection Customer shall promptly inform Transmission Provider of any material change to Interconnection Customer's demonstration of Site Control under Section 3.4.2(iii) of this LGIP. Upon Transmission Provider determining that Interconnection Customer no longer satisfies the Site Control requirement, Transmission Provider shall notify Interconnection Customer. Within ten (10) Business Days of such notification, Interconnection Customer must demonstrate compliance with the applicable requirement subject to Transmission Provider's approval, not to be unreasonably withheld. Absent such demonstration, Transmission Provider shall deem the subject Interconnection Request withdrawn pursuant to Section 3.7 of this LGIP.

(2) If no Interconnection Customer withdraws from the Cluster after completion of the Cluster Study or Cluster Restudy or is deemed withdrawn pursuant to Section 3.7 of this LGIP after completion of the Cluster Study or Cluster Restudy, Transmission Provider shall notify Interconnection Customers in the Cluster that a Cluster Restudy is not required.

(3) If one or more Interconnection Customers withdraw from the Cluster or are deemed withdrawn pursuant to Section 3.7 of this LGIP, Transmission Provider shall determine if a Cluster Restudy is necessary within thirty (30) Calendar Days after the Cluster Study Report Meeting. If Transmission Provider determines a Cluster Restudy is not necessary, Transmission Provider shall notify Interconnection Customers in the Cluster that a Cluster Restudy is not required and Transmission Provider shall provide an updated Cluster Study Report within thirty (30) Calendar Days of such determination.

(4) If one or more Interconnection Customers withdraws from the Cluster or is deemed withdrawn pursuant to Section 3.7 of this LGIP, and Transmission Provider determines a Cluster Restudy is necessary as a result, Transmission Provider shall notify Interconnection Customers in the

Cluster and post on OASIS that a Cluster Restudy is required within thirty (30) Calendar Days after the Cluster Study Report Meeting. Transmission Provider shall continue with such restudies until Transmission Provider determines that no further restudies are required. If an Interconnection Customer withdraws or is deemed withdrawn pursuant to Section 3.7 of this LGIP during the Interconnection Facilities Study, or after other Interconnection Customers in the same Cluster have executed LGIAs, or requested that unexecuted LGIAs be filed, and Transmission Provider determines a Cluster Restudy is necessary, the Cluster shall be restudied. *If a Cluster Restudy is required due to a higher queued project withdrawing from the queue, or a modification of a higher or equally queued project subject to Section 4.4 of this LGIP, Transmission Provider shall so notify affected Interconnection Customers in writing. Except as provided in Section 3.7 of this LGIP in the case of withdrawing Interconnection Customers, any cost of Restudy shall be borne by Interconnection Customers being restudied.*

(5) The scope of any Cluster Restudy shall be consistent with the scope of an initial Cluster Study pursuant to Section 7.3 of this LGIP. Transmission Provider shall complete the Cluster Restudy within one hundred fifty (150) Calendar Days of [the] Transmission Provider informing [the] Interconnection Customers in the [c]*C*luster that restudy is needed. The results of the Cluster Restudy shall be combined into a single report (Cluster Restudy Report). Transmission Provider shall hold a meeting with [the] Interconnection Customers in the [c]*C*luster (Cluster Restudy Report Meeting) within ten (10) Business Days of simultaneously furnishing the Cluster Restudy Report to each Interconnection Customer in the Cluster Restudy and publishing the Cluster Restudy Report on OASIS.

If additional restudies are required, Interconnection Customer and Transmission Provider shall follow the procedures of this Section 7.5 of this LGIP until such time that Transmission Provider determines that no further restudies are required. Transmission Provider shall notify each Interconnection Customer within the Cluster when no further restudies are required.

Section 8. Interconnection Facilities Study

8.1 Interconnection Facilities Study Agreement.

[Simultaneously with the delivery of the Cluster Study Report, or Cluster Restudy Report if applicable,] *Within five (5) Business Days following Transmission Provider notifying each Interconnection Customer within the Cluster that no further Cluster Restudy is required (per Section 7.5 of this LGIP)*, Transmission Provider shall provide to Interconnection Customer an Interconnection Facilities Study Agreement in the form of Appendix 3 to this LGIP. Interconnection Customer shall compensate Transmission Provider for the actual cost of the Interconnection Facilities Study. Within five (5) Business Days following the Cluster Report Meeting or Cluster Restudy Report Meeting if applicable, Transmission Provider shall provide to Interconnection Customer a non-binding good faith estimate of the cost and timeframe for completing the Interconnection Facilities Study. Interconnection Customer shall execute the Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to Transmission Provider within thirty (30) Calendar Days after its receipt, together with:

(1) any required technical data;

(2) Demonstration of one-hundred percent (100%) Site Control or demonstration of a regulatory limitation and applicable deposit in lieu of Site Control provided to [the] Transmission Provider in accordance with [s]*S*ection 3.4.2 of this LGIP; and

(3) An additional deposit that brings the total Commercial Readiness Deposit submitted to [the] Transmission Provider to ten percent (10%) of [the] Interconnection Customer's Network Upgrade cost assignment identified in the Cluster Study or Cluster Restudy, if applicable, in the form of an irrevocable letter of credit,[or] cash, *a surety bond, or other form of security that is reasonably acceptable to Transmission Provider*. Transmission Provider shall refund the deposit to Interconnection Customer upon withdrawal in accordance with Section 3.7 of this LGIP.

Interconnection Customer shall promptly inform Transmission Provider of any material change to Interconnection Customer's demonstration of Site

Control under Section 3.4.2(iii) of this LGIP. Upon Transmission Provider determining separately that Interconnection Customer no longer satisfies the Site Control requirement, Transmission Provider shall notify Interconnection Customer. Within ten (10) Business Days of such notification, Interconnection Customer must demonstrate compliance with the applicable requirement subject to Transmission Provider's approval, not to be unreasonably withheld. Absent such demonstration, Transmission Provider shall deem the subject Interconnection Request withdrawn pursuant to Section 3.7 of this LGIP.

8.2 Scope of Interconnection Facilities Study.

The Interconnection Facilities Study shall be specific to each Interconnection Request and performed on an individual, i.e., non-clustered, basis. The Interconnection Facilities Study shall specify and provide a non-binding estimate of the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Cluster Study Report (and any associated restudies) in accordance with Good Utility Practice to physically and electrically connect the Interconnection Facilities to the Transmission System. The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Transmission Provider's Interconnection Facilities and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities. The Interconnection Facilities Study will also identify any potential control equipment for (1) requests for Interconnection Service that are lower than the Generating Facility Capacity, and/or (2) requests to study a Generating Facility that includes at least one electric storage resource using operating assumptions (i.e., whether the interconnecting Generating Facility will or will not charge at peak load) that reflect its proposed charging behavior, as requested by Interconnection Customer, unless Transmission Provider determines that Good Utility Practice, including Applicable Reliability Standards, otherwise require the use of different operating assumptions.

8.3 Interconnection Facilities Study Procedures.

Transmission Provider shall coordinate the Interconnection Facilities Study with any Affected System *Operator* pursuant to Section 3.6 of this LGIP. Transmission Provider shall utilize existing studies to the extent practicable in performing the Interconnection Facilities Study. Transmission Provider shall complete the study and issue a draft Interconnection Facilities Study Report to Interconnection Customer within the following number of days after receipt of an executed Interconnection Facilities Study Agreement: ninety (90) Calendar Days after receipt of an executed Interconnection Facilities Study Agreement, with no more than a +/- [20] *twenty* percent *(20%)* cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if Interconnection Customer requests a +/- [10] *ten* percent *(10%)* cost estimate.

At the request of Interconnection Customer or at any time Transmission Provider determines that it will not meet the required time frame for completing the Interconnection Facilities Study, Transmission Provider shall notify Interconnection Customer as to the schedule status of the Interconnection Facilities Study. If Transmission Provider is unable to complete the Interconnection Facilities Study and issue a draft Interconnection Facilities Study Report within the time required, it shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required.

Interconnection Customer may, within thirty (30) Calendar Days after receipt of the draft Interconnection Facilities Study Report, provide written comments to Transmission Provider, which Transmission Provider shall include in completing the final Interconnection Facilities Study Report. Transmission Provider shall issue the final Interconnection Facilities Study Report within fifteen (15) Business Days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. Transmission Provider may reasonably extend such fifteen (15) Business Day period upon notice to Interconnection Customer if Interconnection Customer's comments require Transmission Provider to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Study Report. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation, workpapers, and databases or data developed in the

preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section 13.1 of this LGIP.

8.4 Meeting with Transmission Provider.

Within ten (10) Business Days of providing a draft Interconnection Facilities Study Report to Interconnection Customer, Transmission Provider and Interconnection Customer shall meet to discuss the results of the Interconnection Facilities Study.

8.5 Restudy.

If [R]*r*estudy of the Interconnection Facilities Study is required due to a higher or equally queued project withdrawing from the queue or a modification of a higher or equally queued project pursuant to Section 4.4 of this LGIP, Transmission Provider shall so notify Interconnection Customer in writing. Transmission Provider shall ensure that such [R]*r*estudy takes no longer than sixty (60) Calendar Days from the date of notice. Except as provided in Section 3.7 of this LGIP in the case of withdrawing Interconnection Customers, any cost of [R]*r*estudy shall be borne by Interconnection Customer being restudied.

Section 9. Affected System Study.

9.1 Applicability.

This Section 9 outlines the duties of Transmission Provider when it receives notification that an Affected System Interconnection Customer's proposed interconnection to its host transmission provider may impact Transmission Provider's Transmission System.

9.2 *Response to Notifications.*

9.2.1 **Response to Initial Notification.**

When Transmission Provider receives *initial* notification *either following the Cluster Study or a Cluster Restudy* that an Affected System Interconnection Customer's proposed interconnection to its host transmission provider may impact Transmission Provider's

Transmission System, Transmission Provider must respond in writing within twenty (20) Business Days whether it intends to conduct an Affected System Study.

By fifteen (15) Business Days after [the] Transmission Provider responds with its affirmative intent to conduct an Affected System Study, Transmission Provider shall share with Affected System Interconnection Customer(s) and the Affected System Interconnection Customer's host transmission provider a non-binding good faith estimate of the cost and the schedule to complete the Affected System Study.

9.2.2 Response to Notification of Cluster Restudy.

Within five (5) Business Days of receipt of notification of Cluster Restudy, Transmission Provider will send written notification to Affected System Interconnection Customer(s) involved in the Cluster Restudy and the host transmission provider that Transmission Provider intends to delay a planned or in-progress Affected System Study until after completion of the Cluster Restudy. If Transmission Provider decides to delay the Affected System Study, it is not required to meet its obligations under Section 9 of this LGIP until the time that it receives notification from the host transmission provider that the Cluster Restudy is complete. If Transmission Provider decides to move forward with its Affected System Study despite the Cluster Restudy, then it must meet all requirements under Section 9 of this LGIP.

9.3 Affected System Queue Position.

Transmission Provider must assign an Affected System Queue Position to Affected System Interconnection Customer(s) that require(s) an Affected System Study. Such Affected System Queue Position shall be assigned based upon the date of execution of the Affected System Study Agreement. Relative to [the] Transmission Provider's Interconnection Customers, this Affected System Queue Position shall be higher-queued than any Cluster that has not yet received its Cluster Study Report and shall be lower-queued than any Cluster that has already received its Cluster Study Report. Consistent with Section 9.7 of this LGIP, Transmission Provider shall study the Affected System Interconnection Customer(s) via Clustering, and all Affected System Interconnection Customers studied in the same Cluster

under Section 9.7 *of this LGIP* shall be equally queued. For Affected System Interconnection Customers that are equally queued, the Affected System Queue Position shall have no bearing on the assignment of Affected System Network Upgrades identified in the applicable Affected System Study. The costs of the Affected System Network Upgrades shall be allocated among the Affected System Interconnection Customers in accordance with Section 9.9 of this LGIP.

9.4 Affected System Study Agreement/Multiparty Affected System Study Agreement.

Unless otherwise agreed, Transmission Provider shall provide to Affected System Interconnection Customer(s) an Affected System Study Agreement/Multiparty Affected System Study Agreement, in the form of Appendix 9 or Appendix 10 to this LGIP, as applicable, within ten (10) Business Days of Transmission Provider sharing the schedule for the Affected System Study per Section 9.2.*1* of this LGIP.

Upon Affected System Interconnection Customer(s)' receipt of the Affected System Study Report, Affected System Interconnection Customer(s) shall compensate Transmission Provider for the actual cost of the Affected System Study. Any difference between the study deposit and the actual cost of the Affected System Study shall be paid by or refunded to the Affected System Interconnection Customer(s). Any invoices for the Affected System Study shall include a detailed and itemized accounting of the cost of the study. Affected System Interconnection Customer(s) shall pay any excess costs beyond the already-paid Affected System Study deposit or be reimbursed for any costs collected over the actual cost of the Affected System Study within thirty (30) Calendar Days of receipt of an invoice thereof. If Affected System Interconnection Customer(s) fail to pay such undisputed costs within the time allotted, it shall lose its Affected System Queue Position. Transmission Provider shall notify Affected System Interconnection Customer's host transmission provider of such failure to pay.

9.5 Execution of Affected System Study Agreement/Multiparty Affected

System Study Agreement.
Affected System Interconnection Customer(s) shall execute the Affected System Study Agreement/Multiparty Affected System Study Agreement, deliver the executed Affected System Study Agreement/Multiparty Affected System Study Agreement to Transmission Provider, and provide the Affected System Study deposit within ten (10) Business Days of receipt. *If Transmission Provider notifies Affected System Interconnection Customer(s) that it will delay the Affected System Study pursuant to Section 9.2.2 of this LGIP, Affected System Interconnection Customer(s) are neither required to execute and return the previously tendered Affected System Study/Multiparty Affected System Study Agreement nor provide the Affected System Study deposit for the previously tendered Affected System Study/Multiparty Affected System Study Agreement*.

If Affected System Interconnection Customer does not provide all required technical data when it delivers the Affected System Study Agreement/Multiparty Affected System Study Agreement, Transmission Provider shall notify the deficient Affected System Interconnection Customer, as well as the host transmission provider with which Affected System Interconnection Customer seeks to interconnect, of the *technical data* deficiency within five (5) Business Days of the receipt of the executed Affected System Study Agreement/Multiparty Affected System Study Agreement and the deficient Affected System Interconnection Customer shall cure the *technical* deficiency within ten (10) Business Days of receipt of the notice: provided, however, that such deficiency does not include failure to deliver the executed Affected System Study Agreement/Multiparty Affected System Study Agreement or deposit for the Affected System Study Agreement/Multiparty Affected System Study Agreement. If Affected System Interconnection Customer does not cure the *technical data* deficiency *within the cure period* or fails to execute the Affected System Study Agreement/Multiparty Affected System Study Agreement or provide the deposit, the Affected System Interconnection Customer shall lose its Affected System Queue Position.

9.6 Scope of Affected System Study.
The Affected System Study shall evaluate the impact that any Affected System Interconnection Customer's proposed interconnection to another transmission provider's transmission system will have on the reliability of

Transmission Provider's Transmission System. The Affected System Study shall consider the Base Case as well as all Generating Facilities (and with respect to (iii) below, any identified Affected System Network Upgrades associated with such higher-queued Interconnection Request) that, on the date the Affected System Study is commenced: (i) are directly interconnected to Transmission Provider's Transmission System; (ii) are directly interconnected to another transmission provider's transmission system and may have an impact on Affected System Interconnection Customer's interconnection request; (iii) have a pending higher-queued Interconnection Request to interconnect to Transmission Provider's Transmission System; and (iv) have no queue position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC. Transmission Provider has no obligation to study impacts of Affected System Interconnection Customers of which it is not notified.

The Affected System Study shall consist of a power flow, stability, and short circuit analysis. The Affected System Study *Report* will: state the assumptions upon which it is based; state the results of the analyses; and provide the potential impediments to Affected System Interconnection Customer's receipt if interconnection service on its host transmission provider's transmission system, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. For purposes of determining necessary Affected System Network Upgrades, the Affected System Study shall consider the level of interconnection service requested in megawatts by Affected System Interconnection Customer, unless otherwise required to study the full generating facility capacity due to safety or reliability concerns. The Affected System Study *Report* shall provide a list of facilities that are required as a result of Affected System Interconnection Customer's proposed interconnection to another transmission provider's system, a non-binding good faith estimate of cost responsibility, and a non-binding good faith estimated time to construct. The Affected System Study may consist of a system impact study, a facilities study, or some combination thereof.

9.7 Affected System Study Procedures.

Transmission Provider shall use Clustering in conducting the Affected System Study and shall use existing studies to the extent practicable, when

multiple Affected System Interconnection Customers that are part of a single Cluster may cause the need for Affected System Network Upgrades. Transmission Provider shall complete the Affected System Study and provide the Affected System Study Report to Affected System Interconnection Customer(s) and the host transmission provider with whom interconnection has been requested within one hundred fifty (150) Calendar Days after the receipt of the Affected System Study Agreement and deposit.

At the request of Affected System Interconnection Customer, Transmission Provider shall notify Affected System Interconnection Customer as to the status of the Affected System Study. If Transmission Provider is unable to complete the Affected System Study within the requisite time period, it shall notify Affected System Interconnection Customer(s), as well as [the] transmission provider with which Affected System Interconnection Customer seeks to interconnect, and shall provide an estimated completion date with an explanation of the reasons why additional time is required. If Transmission Provider does not meet the deadlines in this [s]*Section*, Transmission Provider shall be subject to the financial penalties as described in Section 3.9 of this LGIP. Upon request, Transmission Provider shall provide Affected System Interconnection Customer(s) with all supporting documentation, workpapers and relevant power flow, short circuit and stability databases for the Affected System Study, subject to confidentiality arrangements consistent with Section 13.1 of this LGIP.

Transmission Provider must study an Affected System Interconnection Customer using the Energy Resource Interconnection Service modeling standard used for Interconnection Requests on its own Transmission System, regardless of the level of interconnection service that Affected System Interconnection Customer is seeking from the host transmission provider with whom it seeks to interconnect.

9.8 Meeting with Transmission Provider.

Within ten (10) Business Days of providing the Affected System Study Report to Affected System Interconnection Customer(s), Transmission Provider and Affected System Interconnection Customer(s) shall meet to discuss the results of the Affected System Study.

9.9 Affected System Cost Allocation.

Transmission Provider shall allocate Affected System Network Upgrade costs identified during the Affected System Study to Affected System Interconnection Customer(s) using a proportional impact method, consistent with Section 4.2.1(1)(b) of this LGIP.

9.10 Tender of Affected Systems Facilities Construction Agreement/Multiparty Affected System Facilities Construction Agreement.

Transmission Provider shall tender to Affected System Interconnection Customer(s) an Affected System Facilities Construction Agreement/Multiparty Affected System Facilities Construction Agreement, as applicable, in the form of Appendix 11 or 12 to this LGIP, within thirty (30) Calendar Days of providing the Affected System Study Report. Within ten (10) Business Days of the receipt of the Affected System Facilities Construction Agreement/Multiparty Affected System Facilities Construction Agreement, the Affected System Interconnection Customer(s) must execute the agreement or request the agreement to be filed unexecuted with FERC. Transmission Provider shall execute the agreement or file the agreement unexecuted within five (5) Business Days after receiving direction from Affected System Interconnection Customer(s). Affected System Interconnection Customer's failure to execute the Affected System Facilities Construction Agreement/Multiparty Affected System Facilities Construction Agreement, or failure to request the agreement to be filed unexecuted with FERC, shall result in the loss of its Affected System Queue Position.

9.11 Restudy.

If restudy of the Affected System Study is required, Transmission Provider shall notify Affected System Interconnection Customer(s) in writing within thirty (30) Calendar Days of discovery of the need for restudy. Such restudy shall take no longer than sixty (60) Calendar Days from the date of notice. Any cost of restudy shall be borne by the Affected System Interconnection Customer(s) being restudied.

Section 10. Optional Interconnection Study

10.1 Optional Interconnection Study Agreement.

On or after the date when Interconnection Customer receives Cluster Study results, Interconnection Customer may request, and Transmission Provider shall perform a reasonable number of Optional *Interconnection* Studies. The request shall describe the assumptions that Interconnection Customer wishes Transmission Provider to study within the scope described in Section 10.2 *of this LGIP*. Within five (5) Business Days after receipt of a request for an Optional Interconnection Study, Transmission Provider shall provide to Interconnection Customer an Optional Interconnection Study Agreement in the form of Appendix 4.

The Optional Interconnection Study Agreement shall: (i) specify the technical data that Interconnection Customer must provide for each phase of the Optional Interconnection Study, (ii) specify Interconnection Customer's assumptions as to which Interconnection Requests with earlier queue priority dates will be excluded from the Optional Interconnection Study case and assumptions as to the type of *I*[i]nterconnection *S*[s]ervice for Interconnection Requests remaining in the Optional Interconnection Study case, and (iii) Transmission Provider's estimate of the cost of the Optional Interconnection Study. To the extent known by Transmission Provider, such estimate shall include any costs expected to be incurred by any Affected System *Operator* whose participation is necessary to complete the Optional Interconnection Study. Notwithstanding the above, Transmission Provider shall not be required as a result of an Optional Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Interconnection Request.

Interconnection Customer shall execute the Optional Interconnection Study Agreement within ten (10) Business Days of receipt and deliver the Optional Interconnection Study Agreement, the technical data and a $10,000 deposit to Transmission Provider.

10.2 Scope of Optional Interconnection Study.

The Optional Interconnection Study will consist of a sensitivity analysis based on the assumptions specified by Interconnection Customer in the Optional Interconnection Study Agreement. The Optional Interconnection Study will also identify Transmission Provider's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the results of the Optional Interconnection Study. The Optional Interconnection Study shall be performed solely for informational purposes. Transmission Provider shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the types of Interconnection Services that are being studied. Transmission Provider shall utilize existing studies to the extent practicable in conducting the Optional Interconnection Study.

10.3 Optional Interconnection Study Procedures.

The executed Optional Interconnection Study Agreement, the prepayment, and technical and other data called for therein must be provided to Transmission Provider within ten (10) Business Days of Interconnection Customer receipt of the Optional Interconnection Study Agreement. Transmission Provider shall use Reasonable Efforts to complete the Optional Interconnection Study within a mutually agreed upon time period specified within the Optional Interconnection Study Agreement. If Transmission Provider is unable to complete the Optional Interconnection Study within such time period, it shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. Any difference between the study payment and the actual cost of the study shall be paid to Transmission Provider or refunded to Interconnection Customer, as appropriate. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation and workpapers and databases or data developed in the preparation of the Optional Interconnection Study, subject to confidentiality arrangements consistent with Section 13.1 *of this LGIP*.

Section 11. Standard Large Generator Interconnection Agreement (LGIA)

11.1 Tender.

Interconnection Customer shall tender comments on the draft Interconnection Facilities Study Report within thirty (30) Calendar Days of receipt of the report. Within thirty (30) Calendar Days after the comments are submitted or after Interconnection Customer notifies Transmission Provider that it will not provide comments, Transmission Provider shall tender a draft LGIA, together with draft appendices. The draft LGIA shall be in the form of Transmission Provider's FERC-approved standard form LGIA, which is in Appendix 5. Interconnection Customer shall execute and return the LGIA and completed draft appendices within thirty (30) Calendar Days, unless (1) the sixty (60) Calendar Day negotiation period under Section 11.2 of this LGIP has commenced, or (2) LGIA execution, or filing unexecuted, has been delayed to await the Affected System Study Report pursuant to Section 11.2.1 of this LGIP.

11.2 Negotiation.

Notwithstanding Section 11.1 *of this LGIP*, at the request of Interconnection Customer, Transmission Provider shall begin negotiations with Interconnection Customer concerning the appendices to the LGIA at any time after Interconnection Customer executes the Interconnection Facilities Study Agreement. Transmission Provider and Interconnection Customer shall negotiate concerning any disputed provisions of the appendices to the draft LGIA for not more than sixty (60) Calendar Days after tender of the final Interconnection Facilities Study Report. If Interconnection Customer determines that negotiations are at an impasse, it may request termination of the negotiations at any time after tender of the draft LGIA pursuant to Section 11.1 *of this LGIP* and request submission of the unexecuted LGIA with FERC or initiate Dispute Resolution procedures pursuant to Section 13.5 *of this LGIP*. If Interconnection Customer requests termination of the negotiations, but within sixty (60) Calendar Days thereafter fails to request either the filing of the unexecuted LGIA or initiate Dispute Resolution, it shall be deemed to have withdrawn its Interconnection Request. Unless otherwise agreed by the Parties, if Interconnection Customer has not executed the LGIA, requested filing of an unexecuted LGIA, or initiated Dispute Resolution procedures pursuant to Section 13.5 *of this LGIP* within sixty (60) Calendar Days of tender of draft LGIA, it shall be deemed to have withdrawn its Interconnection Request. Transmission Provider shall provide to Interconnection Customer a final LGIA within fifteen (15) Business Days after the completion of the negotiation process.

11.2.1 Delay in LGIA Execution, or Filing Unexecuted, to Await Affected System Study Report.

If Interconnection Customer has not received its Affected System Study Report from the Affected System Operator prior to the date that it would be required to execute its LGIA (or request that its LGIA be filed unexecuted) pursuant to Section 11.1 of this LGIP, Transmission Provider shall, upon request of Interconnection Customer, extend this deadline to thirty (30) Calendar Days after Interconnection Customer's receipt of the Affected System Study Report. If Interconnection Customer, after delaying LGIA execution, or requesting unexecuted filing, to await Affected System Study [Results]*Report,* decides to proceed to LGIA execution, or request unexecuted filing, without those results, it may notify Transmission Provider of its intent to proceed with LGIA execution (or request that its LGIA be filed unexecuted) pursuant to Section 11.1 of this LGIP. If Transmission Provider determines that further delay to the LGIA execution date would cause a material impact on the cost or timing of an equal- or lower-queued [i]*I*nterconnection [c]*C*ustomer, Transmission Provider must notify Interconnection Customer of such impacts and set the deadline to execute the LGIA (or request that the LGIA be filed unexecuted) to thirty (30) Calendar Days after such notice is provided.

11.3 Execution and Filing.

Simultaneously with submitting the executed LGIA to Transmission Provider, or within ten (10) Business Days after [the] Interconnection Customer requests that [the] Transmission Provider file the LGIA unexecuted at the Commission, Interconnection Customer shall provide Transmission Provider with *the following:* (1) demonstration of continued Site Control pursuant to Section 8.1(2) of this LGIP; and (2) the LGIA Deposit equal to twenty percent (20%) of Interconnection Customer's estimated Network Upgrade costs identified in the draft LGIA minus the total amount of Commercial Readiness Deposits that Interconnection Customer has provided to Transmission Provider for its Interconnection Request. Transmission Provider shall use LGIA Deposit as (or as a portion of) [the] Interconnection Customer's security required under LGIA Article 11.5. Interconnection Customer may not request to suspend its LGIA under

LGIA Article 5.16 until Interconnection Customer has provided (1) and (2) to Transmission Provider. If Interconnection Customer fails to provide (1) and (2) to Transmission Provider within the thirty (30) Calendar Days allowed for returning the executed LGIA and appendices under LGIP Section 11.1, or within ten (10) Business Days after Interconnection Customer requests that Transmission Provider file the LGIA unexecuted at the Commission as allowed in this Section 11.3 of this LGIP, the Interconnection Request will be deemed withdrawn pursuant to Section 3.7 of this LGIP.

At the same time, Interconnection Customer also shall provide reasonable evidence that one or more of the following milestones in the development of the Large Generating Facility, at Interconnection Customer election, has been achieved (unless such milestone is inapplicable due to the characteristics of the Generating Facility): (i) the execution of a contract for the supply or transportation of fuel to the Large Generating Facility; (ii) the execution of a contract for the supply of cooling water to the Large Generating Facility; (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Large Generating Facility; (iv) execution of a contract (or comparable evidence) for the sale of electric energy or capacity from the Large Generating Facility; or (v) application for an air, water, or land use permit.

Interconnection Customer shall either: (i) execute two originals of the tendered LGIA and return them to Transmission Provider; or (ii) request in writing that Transmission Provider file with FERC an LGIA in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of the tendered LGIA (if it does not conform with a FERC-approved [standard form of interconnection agreement] *Standard Large Generator Interconnection Agreement*) or the request to file an unexecuted LGIA, Transmission Provider shall file the LGIA with FERC, together with its explanation of any matters as to which Interconnection Customer and Transmission Provider disagree and support for the costs that Transmission Provider proposes to charge to Interconnection Customer under the LGIA. An unexecuted LGIA should contain terms and conditions deemed appropriate by Transmission Provider for the Interconnection Request. If the Parties agree to proceed with design, procurement, and construction of facilities and upgrades under the

agreed-upon terms of the unexecuted LGIA, they may proceed pending FERC action.

11.4 Commencement of Interconnection Activities.
If Interconnection Customer executes the final LGIA, Transmission Provider and Interconnection Customer shall perform their respective obligations in accordance with the terms of the LGIA, subject to modification by FERC. Upon submission of an unexecuted LGIA, Interconnection Customer and Transmission Provider shall promptly comply with the unexecuted LGIA, subject to modification by FERC.

Section 12. Construction of Transmission Provider's Interconnection Facilities and Network Upgrades

12.1 Schedule.
Transmission Provider and Interconnection Customer shall negotiate in good faith concerning a schedule for the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades.

12.2 Construction Sequencing.

12.2.1 General.
In general, the In-Service Date of an Interconnection Customer[s] seeking interconnection to the Transmission System will determine the sequence of construction of Network Upgrades.

12.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than Interconnection Customer.
An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Provider advance to the extent necessary the completion of Network Upgrades that: (i) were assumed in the

Interconnection Studies for such Interconnection Customer, (ii) are necessary to support such In-Service Date, and (iii) would otherwise not be completed, pursuant to a contractual obligation of an entity other than Interconnection Customer that is seeking interconnection to the Transmission System, in time to support such In-Service Date. Upon such request, Transmission Provider will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Provider: (i) any associated expediting costs and (ii) the cost of such Network Upgrades.

Transmission Provider will refund to Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the LGIA. Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that Transmission Provider has not refunded to Interconnection Customer. Payment by that entity shall be due on the date that it would have been due had there been no request for advance construction. Transmission Provider shall forward to Interconnection Customer the amount paid by the entity with a contractual obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to Interconnection Customer. Transmission Provider then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the LGIA.

12.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of [the] Transmission Provider. An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Provider advance to the extent necessary the completion of Network Upgrades that: (i) are necessary to support such In-Service Date and (ii) would otherwise not be completed, pursuant to an expansion plan of Transmission Provider, in time to support such In-Service Date. Upon such request,

Transmission Provider will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Provider any associated expediting costs. Interconnection Customer shall be entitled to transmission credits, if any, for any expediting costs paid.

12.2.4 Amended Interconnection Cluster Study Report.
An Interconnection Cluster Study Report will be amended to determine the facilities necessary to support the requested In-Service Date. This amended study report will include those transmission and Large Generating Facilities that are expected to be in service on or before the requested In-Service Date.

Section 13. Miscellaneous

13.1 Confidentiality.

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of an LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by either Party, the other Party shall provide in writing, the basis for asserting that the information referred to in this Article warrants

confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

13.1.1 Scope.

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the LGIA; or (6) is required, in accordance with Section 13.1.6 *of this LGIP*, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the

LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

13.1.2 Release of Confidential Information.

Neither Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), employees, consultants, or to parties who may be or considering providing financing to or equity participation

with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Section 13.1 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section 13.1.

13.1.3 Rights.

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

13.1.4 No Warranties.

By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

13.1.5 Standard of Care.

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under these procedures or its regulatory requirements.

13.1.6 Order of Disclosure.

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of the LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

13.1.7 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Section 13.1. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Section 13.1, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Section 13.1, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 13.1.

13.1.8 Disclosure to FERC, its Staff, or a State.

Notwithstanding anything in this Section 13.1 to the contrary, and pursuant to 18 CFR section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to the LGIP, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the LGIA when it[s] is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations.

13.1.9 Subject to the exception in Section 13.1.8 of this LGIP, any information that a Party claims is competitively sensitive, commercial or financial information ("Confidential Information") shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this LGIP or as a transmission service provider or a Balancing Authority Area operator including disclosing the Confidential Information to an RTO or ISO or to a subregional, regional or national reliability organization or planning group. The Party asserting confidentiality shall

notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

13.1.10 This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a Breach of this provision).

13.1.11 Transmission Provider shall, at Interconnection Customer's election, destroy, in a confidential manner, or return the Confidential Information provided at the time of Confidential Information is no longer needed.

13.2 Delegation of Responsibility.

Transmission Provider may use the services of subcontractors as it deems appropriate to perform its obligations under this LGIP. Transmission Provider shall remain primarily liable to Interconnection Customer for the performance of such subcontractors and compliance with its obligations of this LGIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and no other purpose.

13.3 Obligation for Study Costs.

In the event an Interconnection Customer withdraws its Interconnection Request prior to the commencement of the Cluster Study, Interconnection Customer must pay Transmission Provider the actual costs of processing its

Interconnection Request. In the event an Interconnection Customer withdraws after the commencement of the Cluster Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Studies. The costs of any interconnection study conducted on a clustered basis shall be allocated among each Interconnection Customer within the cluster as follows: {Transmission Provider shall include in this section a description of how the cost of any clustered interconnection study will be allocated.}

Any difference between the study deposit and the actual cost of the [applicable] Interconnection Stud*ies*[y] shall be paid by or refunded *to*, except as otherwise provided herein, to Interconnection Customers [or offset against the cost of any future Interconnection Studies associated with the applicable Cluster prior to beginning of any such future Interconnection Studies]. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study. Interconnection Customers shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice therefor. If [an] Interconnection Customer fails to pay such undisputed costs within the time allotted, its Interconnection Request shall be deemed withdrawn from the Cluster Study Process and will be subject to Withdrawal Penalties pursuant to Section 3.7 of this LGIP.

13.4 Third Parties Conducting Studies.

If (i) at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study, (ii) Interconnection Customer receives notice pursuant to Sections 6.3, 7.4 or 8.3 *of this LGIP* that Transmission Provider will not complete an Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) Interconnection Customer receives neither the Interconnection Study nor a notice under Sections 6.3, 7.4 or 8.3 *of this LGIP* within the applicable timeframe for such Interconnection Study, then Interconnection Customer may require Transmission Provider to utilize a third party consultant reasonably acceptable to Interconnection Customer and Transmission Provider to perform such Interconnection Study under the direction of Transmission Provider. At other times, Transmission Provider may also utilize a third party consultant to perform such

Interconnection Study, either in response to a general request of Interconnection Customer, or on its own volition.

In all cases, use of a third party consultant shall be in accord with Article 26 of the LGIA (Subcontractors) and limited to situations where Transmission Provider determines that doing so will help maintain or accelerate the study process for Interconnection Customer's pending Interconnection Request and not interfere with Transmission Provider's progress on Interconnection Studies for other pending Interconnection Requests. In cases where Interconnection Customer requests use of a third party consultant to perform such Interconnection Study, Interconnection Customer and Transmission Provider shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. Transmission Provider shall convey all workpapers, data bases, study results and all other supporting documentation prepared to date with respect to the Interconnection Request as soon as soon as practicable upon Interconnection Customer's request subject to the confidentiality provision in Section 13.1 *of this LGIP*. In any case, such third party contract may be entered into with either Interconnection Customer or Transmission Provider at Transmission Provider's discretion. In the case of (iii) Interconnection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such third party study. Such third party consultant shall be required to comply with this LGIP, Article 26 of the LGIA (Subcontractors), and the relevant Tariff procedures and protocols as would apply if Transmission Provider were to conduct the Interconnection Study and shall use the information provided to

it solely for purposes of performing such services and for no other purposes. Transmission Provider shall cooperate with such third party consultant and Interconnection Customer to complete and issue the Interconnection Study in the shortest reasonable time.

13.5 Disputes.

13.5.1 Submission.

In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with the LGIA, the LGIP, or

their performance, such Party (the "disputing Party") shall provide the other Party with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

13.5.2 External Arbitration Procedures.

Any arbitration initiated under these procedures shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Section 13, the terms of this Section 13 shall prevail.

13.5.3 Arbitration Decisions.

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the LGIA and LGIP and shall have no power to modify or change any provision of the LGIA and LGIP in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

13.5.4 Costs.

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or (2) one half the cost of the single arbitrator jointly chosen by the Parties.

13.5.5 Non-binding dispute resolution procedures.

If a Party has submitted a Notice of Dispute pursuant to Section 13.5.1 *of this LGIP*, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue the Section 13.5 arbitration process, a Party may request that Transmission Provider engage in Non-binding Dispute Resolution pursuant to this [s]Section by providing

written notice to Transmission Provider ("Request for Non-binding Dispute Resolution"). Conversely, either Party may file a Request for Non-binding Dispute Resolution pursuant to this [s]*S*ection without first seeking mutual agreement to pursue the Section 13.5 arbitration process. The process in *this* Section 13.5.5 shall serve as an alternative to, and not a replacement of, the Section 13.5 arbitration process. Pursuant to this process, a Transmission Provider must within *thirty* (30) *Calendar* [d]*D*ays of receipt of the Request for Non-binding Dispute Resolution appoint a neutral decision-maker that is an independent subcontractor that shall not have any current or past substantial business or financial relationships with either Party. Unless otherwise agreed by the Parties, the decision-maker shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. This decision-maker shall be authorized only to interpret and apply the provisions of the LGIP and LGIA and shall have no power to modify or change any provision of the LGIP and LGIA in any manner. The result reached in this process is not binding, but, unless otherwise agreed, the Parties may cite the record and decision in the non-binding dispute resolution process in future dispute resolution processes, including in a Section 13.5 arbitration, or in a Federal Power Act section 206 complaint. Each Party shall be responsible for its own costs incurred during the process and the cost of the decision-maker shall be divided equally among each Party to the dispute.

13.6 Local Furnishing Bonds.

13.6.1 Transmission Providers That Own Facilities Financed by Local Furnishing Bonds.

This provision is applicable only to a Transmission Provider that has financed facilities for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code ("local furnishing bonds"). Notwithstanding any other provision of this LGIA and LGIP, Transmission Provider shall not be required to provide

Interconnection Service to Interconnection Customer pursuant to this LGIA and LGIP if the provision of such Transmission Service would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance Transmission Provider's facilities that would be used in providing such Interconnection Service.

13.6.2 Alternative Procedures for Requesting Interconnection Service.

If Transmission Provider determines that the provision of Interconnection Service requested by Interconnection Customer would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance its facilities that would be used in providing such Interconnection Service, it shall advise [the] Interconnection Customer within thirty (30) Calendar Days of receipt of the Interconnection Request.

Interconnection Customer thereafter may renew its request for interconnection using the process specified in [Article]*Section* 5.2(ii) of [the] Transmission Provider's Tariff.

13.7 Engineering & Procurement ('E&P') Agreement.

Prior to executing an LGIA, an Interconnection Customer may, in order to advance the implementation of its interconnection, request and Transmission Provider shall offer Interconnection Customer, an E&P Agreement that authorizes Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, Transmission Provider shall not be obligated to offer an E&P Agreement if Interconnection Customer is in Dispute Resolution as a result of an allegation that Interconnection Customer has failed to meet any milestones or comply with any prerequisites specified in other parts of the LGIP. The E&P Agreement is an optional procedure and it will not alter Interconnection Customer's Queue Position or In-Service Date. The E&P Agreement shall provide for Interconnection Customer to pay the cost of all activities authorized by Interconnection Customer and to make advance payments or provide other satisfactory security for such costs.

Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its interconnection, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. If Interconnection Customer withdraws its Interconnection Request or either Party terminates the E&P Agreement, to the extent the equipment ordered can be canceled under reasonable terms, Interconnection Customer shall be obligated to pay the associated cancellation costs. To the extent that

the equipment cannot be reasonably canceled, Transmission Provider may elect: (i) to take title to the equipment, in which event Transmission Provider shall refund Interconnection Customer any amounts paid by Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) to transfer title to and deliver such equipment to Interconnection Customer, in which event Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

APPENDIX 1 to LGIP

INTERCONNECTION REQUEST FOR A

LARGE GENERATING FACILITY

1. The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility with Transmission Provider's Transmission System pursuant to a Tariff.

2. This Interconnection Request is for (check one):

   _____ A proposed new Large Generating Facility.

   _____ An increase in the generating capacity or a Material Modification of an existing Generating Facility.

3. The type of interconnection service requested (check one):

   _____ Energy Resource Interconnection Service

   _____ Network Resource Interconnection Service

4. _____ Check here only if Interconnection Customer requesting Network Resource Interconnection Service also seeks to have its Generating Facility studied for Energy Resource Interconnection Service

5. Interconnection Customer provides the following information:

   a. Address or location or the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;

b. Maximum summer at ____ degrees C and winter at _____ degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;

c. General description of the equipment configuration;

d. Commercial Operation Date (Day, Month, and Year);

e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;

f. Approximate location of the proposed Point of Interconnection (optional);

g. Interconnection Customer Data (set forth in Attachment A);

h. Primary frequency response operating range for electric storage resources;

i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity);

j. If applicable, (1) the requested operating assumptions (i.e., whether the interconnecting Generating Facility will or will not charge at peak load) to be used by Transmission Provider that reflect the proposed charging behavior of a Generating Facility that includes at least one electric storage resource, and (2) a description of any control technologies (software and/or hardware) that will limit the operation of the Generating Facility to its intended operation.

6. Applicable deposit amount as specified in the LGIP.

7. Evidence of Site Control as specified in the LGIP (check one)

____ Is attached to this Interconnection Request

____ Will be provided at a later date in accordance with this LGIP

8. This Interconnection Request shall be submitted to the representative indicated below:

{To be completed by Transmission Provider}

9. Representative of Interconnection Customer to contact:

{To be completed by Interconnection Customer}

10. This Interconnection Request is submitted by:

Name of Interconnection Customer: _____

By (signature): _____

Name (type or print): _____

Title: _____

Date: _____

Attachment A to Appendix 1

Interconnection Request

LARGE GENERATING FACILITY DATA

UNIT RATINGS

kVA _____ °F _____ Voltage _____

Power Factor _____

Speed (RPM) _____ Connection (e.g. Wye) _____

Short Circuit Ratio _____ Frequency, Hertz _____

Stator Amperes at Rated kVA _____ Field Volts _____

Max Turbine MW _____°F _____

Primary frequency response operating range for electric storage resources:

Minimum State of Charge:_____

Maximum State of Charge:_____

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = _____ kW sec/kVA

Moment-of-Inertia, WR^2 = _____ lb. $ft.^2$

REACTANCE DATA (PER UNIT-RATED KVA)

	DIRECT AXIS		QUADRATURE AXIS	
Synchronous – saturated	X_{dv}	_____	X_{qv}	_____
Synchronous – unsaturated	X_{di}	_____	X_{qi}	_____
Transient – saturated		X'_{dv} _____	X'_{qv}	_____
Transient – unsaturated	X'_{di}	_____	X'_{qi}	_____
Subtransient – saturated	X''_{dv}	_____	X''_{qv}	_____
Subtransient – unsaturated	X''_{di}	_____	X''_{qi}	_____
Negative Sequence – saturated	$X2_v$	_____		
Negative Sequence – unsaturated	$X2_i$	_____		
Zero Sequence – saturated	$X0_v$	_____		
Zero Sequence – unsaturated		$X0_i$ _____		
Leakage Reactance	Xl_m	_____		

FIELD TIME CONSTANT DATA (SEC)

Open Circuit	T'_{do} _____		T'_{qo}	_____
Three-Phase Short Circuit Transient	T'_{d3} _____		T'_{q}	_____
Line to Line Short Circuit Transient	T'_{d2} _____			
Line to Neutral Short Circuit Transient	T'_{d1} _____			
Short Circuit Subtransient	T''_{d} _____		T''_{q}	_____
Open Circuit Subtransient	T''_{do} _____		T''_{qo}	_____

ARMATURE TIME CONSTANT DATA (SEC)

Three Phase Short Circuit	T_{a3}	_____
Line to Line Short Circuit	T_{a2}	_____
Line to Neutral Short Circuit	T_{a1}	_____

NOTE: If requested information is not applicable, indicate by marking “N/A.”

MW CAPABILITY AND PLANT CONFIGURATION

LARGE GENERATING FACILITY DATA

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R_1	_____
Negative	R_2	_____
Zero	R_0	_____

Rotor Short Time Thermal Capacity I_2^2t = _____

Field Current at Rated kVA, Armature Voltage and PF = _____ amps

Field Current at Rated kVA and Armature Voltage, 0 PF = _____ amps

Three Phase Armature Winding Capacitance = _____ microfarad

Field Winding Resistance = _____ ohms _____ °C

Armature Winding Resistance (Per Phase) = _____ ohms _____ °C

CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves. Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

GENERATOR STEP-UP TRANSFORMER DATA RATINGS

Capacity Self-cooled/

Maximum Nameplate

_____/_____kVA

Voltage Ratio(Generator Side/System side/Tertiary)

_____/_____/_____kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))

_____/_____/_____

Fixed Taps Available _____

Present Tap Setting _____

IMPEDANCE

Positive Z_1 (on self-cooled kVA rating)_____ % _____ X/R

Zero Z_0 (on self-cooled kVA rating)_____ % _____ X/R

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request: _____

_____

Elevation: _____ _____ Single Phase _____ Three Phase

Inverter manufacturer, model name, number, and version: _____

_____

List of adjustable setpoints for the protective equipment or software:

_____

Note: A completed General Electric Company Power Systems Load Flow (PSLF) data sheet or other compatible formats, such as IEEE and PTI power flow models, must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

INDUCTION GENERATORS

(*) Field Volts: _____

(*) Field Amperes: _____

(*) Motoring Power (kW): _____

(*) Neutral Grounding Resistor (If Applicable): _____

(*) I_2^2t or K (Heating Time Constant): _____

(*) Rotor Resistance: _____

(*) Stator Resistance: _____

(*) Stator Reactance: _____

(*) Rotor Reactance: _____

(*) Magnetizing Reactance: _____

(*) Short Circuit Reactance: _____

(*) Exciting Current: _____

(*) Temperature Rise: _____

(*) Frame Size: _____

(*) Design Letter: _____

(*) Reactive Power Required In Vars (No Load): _____

(*) Reactive Power Required In Vars (Full Load): _____

(*) Total Rotating Inertia, H: _____Per Unit on KVA Base

Note: Please consult Transmission Provider prior to submitting the Interconnection Request to determine if the information designated by (*) is required.

MODELS FOR NON-SYNCHRONOUS GENERATORS

For a non-synchronous Large Generating Facility, Interconnection Customer shall provide (1) a validated user-defined root mean squared (RMS) positive sequence dynamics model; (2) an appropriately parameterized generic library RMS positive sequence dynamics model, including model block diagram of the inverter control and plant control systems, as defined by the selection in Table 1 or a model otherwise approved by the Western Electricity Coordinating Council, that corresponds to Interconnection Customer's Large Generating Facility; and (3) if applicable, a validated electromagnetic transient model if Transmission Provider performs an electromagnetic transient study as part of the interconnection study process. A user-defined model is a set of programming code created by equipment manufacturers or developers that captures the latest features of controllers that are mainly software based and represents the entities' control strategies but does not necessarily correspond to any generic library model. Interconnection Customer must also demonstrate that the model is validated by providing evidence that the equipment behavior is consistent with the model behavior (e.g., an attestation from Interconnection Customer that the model accurately represents the entire Large Generating Facility; attestations from each equipment manufacturer that the user defined model accurately represents the component of the Large Generating Facility; or test data).

Table 1: Acceptable Generic Library RMS Positive Sequence Dynamics Models

GE PSLF	Siemens PSS/E*	PowerWorld Simulator	Description
pvd1		PVD1	Distributed PV system model
der_a	DERAU1	DER_A	Distributed energy resource model
regc_a	REGCAU1, REGCA1	REGC_A	Generator/converter model

GE PSLF	Siemens PSS/E*	PowerWorld Simulator	Description
regc_b	REGCBU1	REGC_B	Generator/converter model
wt1g	WT1G1	WT1G and WT1G1	Wind turbine model for Type-1 wind turbines (conventional directly connected induction generator)
wt2g	WT2G1	WT2G and WT2G1	Generator model for generic Type-2 wind turbines
wt2e	WT2E1	WT2E and WT2E1	Rotor resistance control model for wound-rotor induction wind-turbine generator wt2g
reec_a	REECAU1, REECA1	REEC_A	Renewable energy electrical control model
reec_c	REECCU1	REEC_C	Electrical control model for battery energy storage system
reec_d	REECDU1	REEC_D	Renewable energy electrical control model
wt1t	WT12T1	WT1T and WT12T1	Wind turbine model for Type-1 wind turbines (conventional directly connected induction generator)
wt1p_b	wt1p_b	WT12A1U_B	Generic wind turbine pitch controller for WTGs of Types 1 and 2
wt2t	WT12T1	WT2T	Wind turbine model for Type-2 wind turbines (directly connected induction generator wind turbines with an external rotor resistance)
wtgt_a	WTDTAU1, WTDTA1	WTGT_A	Wind turbine drive train model
wtga_a	WTARAU1, WTARA1	WTGA_A	Simple aerodynamic model
wtgp_a	WTPTAU1, WTPTA1	WTGPT_A	Wind Turbine Generator Pitch controller

GE PSLF	Siemens PSS/E*	PowerWorld Simulator	Description
wtgq_a	WTTQAU1, WTTQA1	WTGTRQ_A	Wind Turbine Generator Torque controller
wtgwgo_a	WTGWGOAU	WTGWGO_A	Supplementary control model for Weak Grids
wtgibffr_a	WTGIBFFRA	WTGIBFFR_A	Inertial-base fast frequency response control
wtgp_b	WTPTBU1	WTGPT_B	Wind Turbine Generator Pitch controller
wtgt_b	WTDTBU1	WTGT_B	Drive train model
repc_a	Type 4: REPCAU1 (v33), REPCA1 (v34) Type 3: REPCTAU1 (v33), REPCTA1 (v34)	REPC_A	Power Plant Controller

GE PSLF	Siemens PSS/E*	PowerWorld Simulator	Description
repc_b	PLNTBU1	REPC_B	Power Plant Level Controller for controlling several plants/devices In regard to Siemens PSS/E*: Names of other models for interface with other devices: REA3XBU1, REAX4BU1- for interface with Type 3 and 4 renewable machines SWSAXBU1- for interface with SVC (modeled as switched shunt in powerflow) SYNAXBU1- for interface with synchronous condenser FCTAXBU1- for interface with FACTS device
repc_c	REPCCU	REPC_C	Power plant controller

APPENDIX 2 to LGIP

CLUSTER STUDY AGREEMENT

THIS AGREEMENT is made and entered into this___day of _____, 20___ by and between_____, a

_____ organized and existing under the laws of the State of

_____, ("Interconnection Customer,") and _____

a _____ organized and existing under the laws of the State of _____, ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; *and*

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a Cluster Study to assess the impact of interconnecting the Large Generating Facility to the Transmission System, and of any Affected Systems; *and*

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in this LGIP.

2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed a Cluster Study consistent with Section 7.0 of this LGIP in accordance with the Tariff.

3.0 The scope of the Cluster Study shall be subject to the assumptions set forth in Attachment A to this Agreement.

4.0 The Cluster Study will be based upon the technical information provided by Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of this LGIP. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Cluster Study.

5.0 The Cluster Study Report shall provide the following information:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

- identification of any thermal overload or voltage limit violations resulting from the interconnection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection and

- description and non-binding, good faith estimated cost of facilities required to interconnect the Large Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.

6.0 Transmission Provider's good faith estimate for the time of completion of the Cluster Study is {insert date}.

Upon receipt of the Cluster Study Report, Transmission Provider shall charge and Interconnection Customer shall pay its share of the actual costs of the Cluster Study, consistent with Section 13.3 of this LGIP.

Any difference between the deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

7.0 Miscellaneous. The Cluster Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of this LGIP and *the* LGIA.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider or Transmission Owner, if applicable}

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

{Insert name of Interconnection Customer}

By: _____

Title: _____

Date: _____

Attachment A To Appendix 2

Cluster Study Agreement

ASSUMPTIONS USED IN CONDUCTING THE CLUSTER STUDY

The Cluster Study will be based upon the technical information provided by [the] Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of this LGIP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

Designation of alternative Point(s) of Interconnection and configuration.

{Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and Transmission Provider}

APPENDIX 3 to LGIP

INTERCONNECTION FACILITIES STUDY AGREEMENT

THIS AGREEMENT is made and entered into this___day of _____, 20___ by and between_____, a

_____ organized and existing under the laws of the State of

_____, ("Interconnection Customer,") and _____

a _____ *organized and* existing under the laws of the State of _____, ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; *and*

WHEREAS, Transmission Provider has completed a[n Interconnection] Cluster Study (the "Cluster Study") and provided the results of said study to Interconnection Customer; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Cluster Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved LGIP.

2.0 Interconnection Customer elects and Transmission Provider shall cause an Interconnection Facilities Study consistent with Section 8.0 of this LGIP to be performed in accordance with the Tariff.

3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A and the data provided in Attachment B to this Agreement.

4.0 The Interconnection Facilities Study Report (i) shall provide a description, estimated cost of (consistent with Attachment A), schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the Cluster Study.

5.0 Interconnection Customer shall provide a Commercial Readiness Deposit per Section 8.1 of this LGIP to enter the Interconnection Facilities Study. The time for completion of the Interconnection Facilities Study is specified in Attachment A.

6.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider or Transmission Owner, if applicable}

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

{Insert name of Interconnection Customer}

By: _____

Title: _____

Date: _____

Attachment A To Appendix 3

Interconnection Facilities

Study Agreement

INTERCONNECTION CUSTOMER SCHEDULE ELECTION FOR CONDUCTING THE INTERCONNECTION FACILITIES STUDY

Transmission Provider shall complete the study and issue a draft Interconnection Facilities Study Report to Interconnection Customer within the following number of days after receipt of an executed copy of this Interconnection Facilities Study Agreement:

- ninety (90) Calendar Days with no more than a +/- 20 percent cost estimate contained in the report, or

- one hundred eighty (180) Calendar Days with no more than a +/- 10 percent cost estimate contained in the report.

Attachment B to Appendix 3

Interconnection Facilities

Study Agreement

DATA FORM TO BE PROVIDED BY INTERCONNECTION CUSTOMER WITH THE

INTERCONNECTION FACILITIES STUDY AGREEMENT

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new ring bus or existing Transmission Provider station. Number of generation connections:

On the one-line diagram indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one-line diagram indicate the location of auxiliary power. (Minimum load on CT/PT) Amps

Will an alternate source of auxiliary power be available during CT/PT maintenance?

____Yes ____ No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? _____Yes _____No (Please indicate on one line diagram).

What type of control system or PLC will be located at Interconnection Customer's Large Generating Facility?

What protocol does the control system or PLC use?

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

Bus length from generation to interconnection station:

Line length from interconnection station to Transmission Provider's transmission line.

Tower number observed in the field. (Painted on tower leg)* _____

Number of third party easements required for transmission lines*:

---

* To be completed in coordination with Transmission Provider.

Is the Large Generating Facility in [the] Transmission Provider's service area?

_____Yes _____No Local provider: _____

Please provide proposed schedule dates:

Begin Construction	Date: _____
Generator step-up transformer receives back feed power	Date: _____
Generation Testing	Date: _____
Commercial Operation	Date: _____

Docket No. RM22-14-001

APPENDIX 4 to LGIP

OPTIONAL INTERCONNECTION STUDY AGREEMENT

THIS AGREEMENT is made and entered into this___day of _____, 20___ by and between_____, a

_____ organized and existing under the laws of the State of

_____, ("Interconnection Customer,") and _____

a _____*organized and* existing under the laws of the State of _____-_____ , ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; *and*

WHEREAS, Interconnection Customer is proposing to establish an interconnection with the Transmission System; and

WHEREAS, Interconnection Customer has submitted to Transmission Provider an Interconnection Request; and

WHEREAS, on or after the date when Interconnection Customer receives the Cluster Study results, Interconnection Customer has further requested that Transmission Provider prepare an Optional Interconnection Study;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved LGIP.

2.0 Interconnection Customer elects and Transmission Provider shall cause an Optional Interconnection Study consistent with Section 10.0 of this LGIP to be performed in accordance with the Tariff.

3.0 The scope of the Optional Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.

4.0 The Optional Interconnection Study shall be performed solely for informational purposes.

5.0 The Optional Interconnection Study report shall provide a sensitivity analysis based on the assumptions specified by Interconnection Customer in Attachment A to this Agreement. The Optional Interconnection Study will identify Transmission Provider's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or interconnection service based upon the assumptions specified by Interconnection Customer in Attachment A.

6.0 Interconnection Customer shall provide a deposit of $10,000 for the performance of the Optional Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Optional Interconnection Study is {insert date}.

Upon receipt of the Optional Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Optional Study.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

7.0 Miscellaneous. The Optional Interconnection Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider or Transmission Owner, if applicable}

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

Docket No. RM22-14-001

{Insert name of Interconnection Customer}

By: _____

Title: _____

Date: _____

APPENDIX 5 to LGIP

LARGE GENERATOR INTERCONNECTION AGREEMENT

(SEE LGIA)

APPENDIX 6 *to LGIP*

INTERCONNECTION PROCEDURES FOR A WIND GENERATING PLANT

Appendix 6 sets forth procedures specific to a wind generating plant. All other requirements of this LGIP continue to apply to wind generating plant interconnections.

A. Special Procedures Applicable to Wind Generators

The wind plant Interconnection Customer, in completing the Interconnection Request required by Section 3.3 of this LGIP, may provide to [the] Transmission Provider a set of preliminary electrical design specifications depicting the wind plant as a single equivalent generator. Upon satisfying these and other applicable Interconnection Request conditions, the wind plant may enter the queue and receive the base case data as provided for in this LGIP.

No later than six months after submitting an Interconnection Request completed in this manner, the wind plant Interconnection Customer must submit completed detailed electrical design specifications and other data (including collector system layout data)

needed to allow [the] Transmission Provider to complete the Cluster Study.

Docket No. RM22-14-001

APPENDIX 7 to LGIP
TRANSITIONAL CLUSTER STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____ ("Interconnection Customer"), and _____, a _____ organized and existing under the laws of the State of _____ ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____;

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a "Transitional Cluster Study," which combines the Cluster Study and Interconnection Facilities Study, in a single cluster study, followed by any needed restudies, to specify and estimate the cost of the equipment, engineering, procurement, and construction work needed to physically and electrically connect the Large Generating Facility to Transmission Provider's Transmission System; and

WHEREAS, Interconnection Customer has a valid Queue Position as of the {Transmission Provider to insert *Commission-approved* effective date of compliance filing}.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in this LGIP.

2.0 Interconnection Customer elects, and Transmission Provider shall cause to be performed, a Transitional Cluster Study.

3.0 The Transitional Cluster Study shall be based upon the technical information provided by Interconnection Customer in the Interconnection Request. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Transitional Cluster Study and Interconnection Customer shall provide such data as quickly as reasonable.

4.0 Pursuant to Section 5.1.1.2 of this LGIP, the interim Transitional Cluster Study Report shall provide the information below:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

- identification of any thermal overload or voltage limit violations resulting from the interconnection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection; and

- Transmission Provider's Interconnection Facilities and Network Upgrades that are expected to be required as a result of the Interconnection Request(s) and a non-binding, good faith estimate of cost responsibility and a non-binding, good faith estimated time to construct.

5.0 Pursuant to Section 5.1.1.2 of this LGIP, the final Transitional Cluster Study Report shall: (1) provide all the information included in the interim Transitional Cluster Study Report; (2) provide a description of, estimated cost of, and schedule for required facilities to interconnect the Generating Facility to the Transmission System; and (3) address the short circuit, instability, and power flow issues identified in the interim Transitional Cluster Study Report.

6.0 Interconnection Customer has met the requirements described in Section 5.1.1.2 of this LGIP.

7.0 Interconnection Customer previously provided a deposit for the performance of Interconnection Studies. Upon receipt of the final Transitional Cluster Study Report, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Transitional Cluster Study. Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, in accordance with the provisions of Section 13.3 of this LGIP.

8.0 Miscellaneous. The Transitional Cluster Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of this LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider or Transmission Owner, if applicable}

By: _____

Title: _____

Date: _____

{Insert name of Interconnection Customer}

By: _____

Title: _____

Date: _____

Docket No. RM22-14-001

APPENDIX 8 to LGIP

TRANSITIONAL SERIAL INTERCONNECTION FACILITIES STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of ___, 20__, by and between _____, a _____ organized and existing under the laws of the State of _____ ("Interconnection Customer") and _____, a _____ organized and existing under the laws of the State of _____ ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Large Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to continue processing its Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement, and construction work needed to implement the conclusions of the final interconnection system impact study (from the previously effective serial study process) in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System; and

WHEREAS, Transmission Provider has provided an Interconnection Facilities Study Agreement to [the] Interconnection Customer on or before {Transmission Provider to insert *Commission-approved* effective date of compliance filing}.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in this LGIP.

2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed an Interconnection Facilities Study consistent with Section 8 of this LGIP.

3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A to this Agreement, which shall be the same assumptions as the previous Interconnection Facilities Study Agreement executed by [the] Interconnection Customer.

4.0 The Interconnection Facilities Study Report shall: (1) provide a description, estimated cost of (consistent with Attachment A), and schedule for required facilities to interconnect the Large Generating Facility to the Transmission System; and (2) address the short circuit, instability, and power flow issues identified in the most recently published Cluster Study Report.

5.0 Interconnection Customer has met the requirements described in Section 5.1.1.1 of this LGIP. The time for completion of the Interconnection Facilities Study is specified in Attachment A, and shall be no later than *one hundred fifty (*150*)* Calendar Days after {Transmission Provider to insert *Commission-approved* effective date [accepted on]*of* compliance *filing*}.

6.0 Interconnection Customer previously provided a deposit of _____ dollars ($___) for the performance of the Interconnection Facilities Study.

7.0 Upon receipt of the Interconnection Facilities Study results, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Facilities Study.

8.0 Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

9.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of this LGIP and this LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider or Transmission Owner, if applicable}

By: _____

Title:

Date: _____

Docket No. RM22-14-001

{Insert name of Interconnection Customer}

By:

Title:

Date:

Docket No. RM22-14-001

Attachment A to Appendix 8

Transitional Serial Interconnection Facilities Study Agreement

ASSUMPTIONS USED IN CONDUCTING THE TRANSITIONAL SERIAL INTERCONNECTION FACILITIES STUDY

{Assumptions to be completed by Interconnection Customer and Transmission Provider}

Docket No. RM22-14-001

APPENDIX 9 to LGIP

TWO-PARTY AFFECTED SYSTEM STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ___ day of _____, 20___, by and between _____, a _____ organized and existing under the laws of the State of _____ (Affected System Interconnection Customer) and _____, a _____ organized and existing under the laws of the State of _____ (Transmission Provider). Affected System Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Affected System Interconnection Customer is proposing to develop a {description of generating facility or generating capacity addition to an existing generating facility} consistent with the interconnection request submitted by Affected System Interconnection Customer to {name of host transmission provider}, dated _____, for which {name of host transmission provider} found impacts on Transmission Provider's Transmission System; and

WHEREAS, Affected System Interconnection Customer desires to interconnect the {generating facility} with {name of host transmission provider}'s transmission system;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in this LGIP.

2.0 Transmission Provider shall coordinate with Affected System Interconnection Customer to perform an Affected System Study consistent with Section 9 of this LGIP.

3.0 The scope of the Affected System Study shall be subject to the assumptions set forth in Attachment A to this Agreement.

4.0 The Affected System Study will be based upon the technical information provided by Affected System Interconnection Customer and {name of host transmission provider}. Transmission Provider reserves the right to request additional technical information from Affected System Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Affected System Study.

5.0 The Affected System Study shall provide the following information:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

- identification of any thermal overload or voltage limit violations resulting from the interconnection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection;

- non-binding, good faith estimated cost and time required to construct facilities required on Transmission Provider's Transmission System to accommodate the interconnection of the {generating facility} to the transmission system of the host transmission provider; and

- description of how such facilities will address the identified short circuit, instability, and power flow issues.

6.0 Affected System Interconnection Customer shall provide a deposit of _____ for performance of the Affected System Study. Upon receipt of the results of the Affected System Study by the Affected System Interconnection Customer, Transmission Provider shall charge, and Affected System Interconnection Customer shall pay, the actual cost of the Affected System Study. Any difference between the deposit and the actual cost of the Affected System Study shall be paid by or refunded to Affected System Interconnection Customer, as appropriate, including interest calculated in accordance with section 35.19a(a)(2) of FERC's regulations.

7.0 This Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability, and assignment, which reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the LGIP.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider}

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

{Insert name of Affected System Interconnection Customer}

By: _____

Title: _____

Date: _____

Project No. ____

Docket No. RM22-14-001

Attachment A to Appendix 9

Two-Party Affected System Study Agreement

ASSUMPTIONS USED IN CONDUCTING THE AFFECTED SYSTEM STUDY

The Affected System Study will be based upon the following assumptions:

{Assumptions to be completed by Affected System Interconnection Customer and Transmission Provider}

Docket No. RM22-14-001

APPENDIX 10 to LGIP

MULTIPARTY AFFECTED SYSTEM STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ___ day of _____, 20___, by and among _____, a _____ organized and existing under the laws of the State of _____ (Affected System Interconnection Customer); _____, a _____ organized and existing under the laws of the State of_____ (Affected System Interconnection Customer); and _____, a _____ organized and existing under the laws of the State of _____ (Transmission Provider). Affected System Interconnection Customers and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties." When it is not important to differentiate among them, Affected System Interconnection Customers each may be referred to as "Affected System Interconnection Customer" or collectively as the "Affected System Interconnection Customers."

RECITALS

WHEREAS, Affected System Interconnection Customers are proposing to develop {description of generating facilities or generating capacity additions to an existing generating facility}, consistent with the interconnection requests submitted by Affected System Interconnection Customers to {name of host transmission provider}, dated _____, for which {name of host transmission provider} found impacts on Transmission Provider's Transmission System; and

WHEREAS, Affected System Interconnection Customers desire to interconnect the {generating facilities} with {name of host transmission provider}'s transmission system;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in this LGIP.

2.0 Transmission Provider shall coordinate with Affected System Interconnection Customers to perform an Affected System Study consistent with Section 9 of this LGIP.

3.0 The scope of the Affected System Study shall be subject to the assumptions set forth in Attachment A to this Agreement.

4.0 The Affected System Study will be based upon the technical information provided by Affected System Interconnection Customers and {name of host transmission provider}. Transmission Provider reserves the right to request additional technical information from Affected System Interconnection Customers as may reasonably become necessary consistent with Good Utility Practice during the course of the Affected System Study.

5.0 The Affected System Study shall provide the following information:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

- identification of any thermal overload or voltage limit violations resulting from the interconnection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection;

- non-binding, good faith estimated cost and time required to construct facilities required on Transmission Provider's Transmission System to accommodate the interconnection of the {generating facilities} to the transmission system of the host transmission provider; and

- description of how such facilities will address the identified short circuit, instability, and power flow issues.

6.0 Affected System Interconnection Customers shall each provide a deposit of _____ for performance of the Affected System Study. Upon receipt of the results of the Affected System Study by the Affected System Interconnection Customers, Transmission Provider shall charge, and Affected System Interconnection Customers shall pay, the actual cost of the Affected System Study. Any difference between the deposit and the actual cost of the Affected System Study shall be paid by or refunded to Affected System Interconnection Customers, as appropriate, including interest calculated in accordance with section 35.19a(a)(2) of FERC's regulations.

7.0 This Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability, and assignment, which reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the LGIP.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider}

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

{Insert name of Affected System Interconnection Customer}

By: _____

Title: _____

Date: _____

Project No. ____

{Insert name of Affected System Interconnection Customer}

By: _____

Title: _____

Date: _____

Project No. ____

Attachment A to Appendix 10

Multiparty Affected System Study Agreement

ASSUMPTIONS USED IN CONDUCTING THE MULTIPARTY AFFECTED SYSTEM STUDY

The Affected System Study will be based upon the following assumptions:

{Assumptions to be completed by Affected System Interconnection Customers and Transmission Provider}

Docket No. RM22-14-001

APPENDIX 11 TO LGIP

TWO-PARTY AFFECTED SYSTEM FACILITIES CONSTRUCTION AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__, by and between _____, organized and existing under the laws of the State of _____ (Affected System Interconnection Customer) and_____, an entity organized *and existing* under the laws of the State of _____ (Transmission Provider). Affected System Interconnection Customer and Transmission Provider each may be referred to as a "Party" or collectively as the "Parties."

RECITALS

WHEREAS, Affected System Interconnection Customer is proposing to develop a {description of generating facility or generating capacity addition to an existing generating facility} consistent with the interconnection request submitted by Affected System Interconnection Customer to {name of host transmission provider}, dated _____, for which {name of host transmission provider} found impacts on Transmission Provider's Transmission System; and

WHEREAS, Affected System Interconnection Customer desires to interconnect the {generating facility} to {name of host transmission provider}'s transmission system; and

WHEREAS, additions, modifications, and upgrade(s) must be made to certain existing facilities of Transmission Provider's Transmission System to accommodate such interconnection; and

WHEREAS, Affected System Interconnection Customer has requested, and Transmission Provider has agreed, to enter into this Agreement for the purpose of facilitating the construction of necessary Affected System Network Upgrade(s);

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

When used in this Agreement, with initial capitalization, the terms specified and not otherwise defined in this Agreement shall have the meanings indicated in this LGIP.

ARTICLE 2

TERM OF AGREEMENT

2.1 Effective Date. This Agreement shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC.

2.2 Term.

2.2.1 General. This Agreement shall become effective as provided in Article 2.1 and shall continue in full force and effect until the earlier of (1) the final repayment, where applicable, by Transmission Provider of the amount funded by Affected System Interconnection Customer for Transmission Provider's design, procurement, construction and installation of the Affected System Network Upgrade(s) provided in Appendix A; (2) the Parties agree to mutually terminate this Agreement; (3) earlier termination is permitted or provided for under Appendix A of this Agreement; or (4) Affected System Interconnection Customer terminates this Agreement

after providing Transmission Provider with written notice at least sixty (60) Calendar Days prior to the proposed termination date, provided that Affected System Interconnection Customer has no outstanding contractual obligations to Transmission Provider under this Agreement. No termination of this Agreement shall be effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination. The term of this Agreement may be adjusted upon mutual agreement of the Parties if (1) the commercial operation date for the {generating facility} is adjusted in accordance with the rules and procedures established by {name of host transmission provider} or (2) the in-service date for the Affected System Network Upgrade(s) is adjusted in accordance with the rules and procedures established by Transmission Provider.

2.2.2 Termination Upon Default. Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 5 of this Agreement where Breach and Breaching Party are defined in Article 5. Defaulting Party shall mean the Party that is in Default. In the event of a Default by a Party, the non-Defaulting Party shall have the termination rights described in Articles 5 and 6; provided, however, Transmission Provider may not terminate this Agreement if Affected System Interconnection Customer is the Defaulting Party and compensates Transmission Provider within thirty (30) Calendar Days for the amount of damages billed to Affected System Interconnection Customer by Transmission Provider for any such damages, including costs and expenses, incurred by Transmission Provider as a result of such Default.

2.2.3 Consequences of Termination. In the event of a termination by either Party, other than a termination by Affected System Interconnection Customer due to a Default by Transmission Provider, Affected System Interconnection Customer shall be responsible for the payment to Transmission Provider of all amounts then due and payable for construction and installation of the Affected System Network Upgrade(s) (including, without limitation, any equipment ordered related to such construction), plus all out-of-pocket expenses incurred by Transmission Provider in

connection with the construction and installation of the Affected System Network Upgrade(s), through the date of termination, and, in the event of the termination of the entire Agreement, any actual costs which Transmission Provider reasonably incurs in (1) winding up work and construction demobilization and (2) ensuring the safety of persons and property and the integrity and safe and reliable operation of Transmission Provider's Transmission System. Transmission Provider shall use Reasonable Efforts to minimize such costs.

2.2.4 Reservation of Rights. Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Affected System Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

2.3 Filing. Transmission Provider shall file this Agreement (and any amendment hereto) with the appropriate Governmental Authority, if required. Affected System Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 8. If Affected System Interconnection Customer has executed this Agreement, or any amendment thereto, Affected System Interconnection Customer shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information reasonably requested by Transmission Provider needed to comply with applicable regulatory requirements.

2.4 Survival. This Agreement shall continue in effect after termination, to the extent necessary, to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this Agreement; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this Agreement or other applicable agreements, to disconnect, remove, or salvage its own facilities and equipment.

2.5 Termination Obligations. Upon any termination pursuant to this Agreement, Affected System Interconnection Customer shall be responsible for the payment of all costs or other contractual obligations incurred prior to the termination date, including previously incurred capital costs, penalties for early termination, and costs of removal and site restoration.

ARTICLE 3

CONSTRUCTION OF AFFECTED SYSTEM NETWORK UPGRADE(S)

3.1 Construction.

3.1.1 Transmission Provider Obligations. Transmission Provider shall (or shall cause such action to) design, procure, construct, and install, and Affected System Interconnection Customer shall pay, consistent with Article 3.2, the costs of all Affected System Network Upgrade(s) identified in Appendix A. All Affected System Network Upgrade(s) designed, procured, constructed, and installed by Transmission Provider pursuant to this Agreement shall satisfy all requirements of applicable safety and/or engineering codes and comply with Good Utility Practice, and further, shall satisfy all Applicable Laws and Regulations. Transmission Provider shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, or any Applicable Laws and Regulations.

3.1.2 Suspension of Work.

3.1.2.1 Right to Suspend. Affected System Interconnection Customer must provide to Transmission Provider written notice of its request for suspension. Only the milestones described in the Appendices of this Agreement are subject to suspension under this Article 3.1.2. Affected System Network Upgrade(s) will be constructed on the schedule described in the Appendices of this Agreement unless: (1) construction is prevented by the order of a Governmental Authority; (2) the Affected System Network Upgrade(s) are not needed by any other Interconnection Customer; or (3) Transmission Provider determines that a Force Majeure event prevents construction. In the event of (1), (2), or (3), any security paid to Transmission Provider under Article 4.1 of this Agreement shall be released by Transmission Provider upon the determination by Transmission Provider that the Affected System Network Upgrade(s) will no longer be constructed. If suspension occurs, Affected System Interconnection Customer shall be responsible for the costs which Transmission Provider incurs (i) in accordance with this Agreement prior to the suspension; (ii) in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of Transmission Provider's Transmission System and, if applicable, any costs incurred in connection with the cancellation of contracts and orders for material which Transmission Provider cannot reasonably avoid; and (iii) reasonably incurs in winding up work and construction demobilization; provided, however, that, prior to canceling any such contracts or orders, Transmission Provider shall obtain Affected System Interconnection Customer's authorization. Affected System Interconnection Customer shall be responsible for all costs incurred in connection with

Affected System Interconnection Customer's failure to authorize cancellation of such contracts or orders.

Interest on amounts paid by Affected System Interconnection Customer to Transmission Provider for the design, procurement, construction, and installation of the Affected System Network Upgrade(s) shall not accrue during periods in which Affected System Interconnection Customer has suspended construction under this Article 3.1.2.

Transmission Provider shall invoice Affected System Interconnection Customer pursuant to Article 4 and will use Reasonable Efforts to minimize its costs. In the event Affected System Interconnection Customer suspends work by Affected System Transmission Provider required under this Agreement pursuant to this Article 3.1.2.1, and has not requested Affected System Transmission Provider to recommence the work required under this Agreement on or before the expiration of three (3) years following commencement of such suspension, this Agreement shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Affected System Transmission Provider, whichever is earlier, if no effective date of suspension is specified.

[3.1.2.2 Recommencing of Work. If Affected System Interconnection Customer requests that Transmission Provider recommence construction of Affected System Network Upgrade(s), Transmission Provider shall have no obligation to afford such work the priority it would have had but for the prior actions of Affected System Interconnection Customer to suspend the work. In such event, Affected System Interconnection Customer shall be responsible for any costs incurred in recommencing the work. All recommenced

work shall be completed pursuant to an amended schedule for the interconnection agreed to by the Parties. Transmission Provider has the right to conduct a restudy of the Affected System Study if conditions have materially changed subsequent to the request to suspend. Affected System Interconnection Customer shall be responsible for the costs of any studies or restudies required.]

[3.1.2.3 Right to Suspend Due to Default. Transmission Provider reserves the right, upon written notice to Affected System Interconnection Customer, to suspend, at any time, work by Transmission Provider due to Default by Affected System Interconnection Customer. Affected System Interconnection Customer shall be responsible for any additional expenses incurred by Transmission Provider associated with the construction and installation of the Affected System Network Upgrade(s) (as set forth in Article 2.2.3) upon the occurrence of either a Breach that Affected System Interconnection Customer is unable to cure-pursuant to Article 5 or a Default pursuant to Article 5. Any form of suspension by Transmission Provider shall not be barred by Articles 2.2.2, 2.2.3, or 5.2.2, nor shall it affect Transmission Provider's right to terminate the work or this Agreement pursuant to Article 6.]

3.1.3 Construction Status. Transmission Provider shall keep Affected System Interconnection Customer advised periodically as to the progress of its design, procurement and construction efforts, as described in Appendix A. Affected System Interconnection Customer may, at any time and reasonably, request a progress report from Transmission Provider. If, at any time, Affected System Interconnection Customer determines that the completion of the Affected System Network Upgrade(s) will not be required until after the specified in-service date, Affected System Interconnection Customer will provide written notice to Transmission Provider of such later date upon which the completion of the Affected

System Network Upgrade(s) would be required. Transmission Provider may delay the in-service date of the Affected System Network Upgrade(s) accordingly.

3.1.4 Timely Completion. Transmission Provider shall use Reasonable Efforts to design, procure, construct, install, and test the Affected System Network Upgrade(s) in accordance with the schedule set forth in Appendix A, which schedule may be revised from time to time by mutual agreement of the Parties. If any event occurs that will affect the time or ability to complete the Affected System Network Upgrade(s), Transmission Provider shall promptly notify Affected System Interconnection Customer. In such circumstances, Transmission Provider shall, within fifteen (15) Calendar Days of such notice, convene a meeting with Affected System Interconnection Customer to evaluate the alternatives available to Affected System Interconnection Customer. Transmission Provider shall also make available to Affected System Interconnection Customer all studies and work papers related to the event and corresponding delay, including all information that is in the possession of Transmission Provider that is reasonably needed by Affected System Interconnection Customer to evaluate alternatives, subject to confidentiality arrangements consistent with Article 8. Transmission Provider shall, at Affected System Interconnection Customer's request and expense, use Reasonable Efforts to accelerate its work under this Agreement to meet the schedule set forth in Appendix A, provided that (1) Affected System Interconnection Customer authorizes such actions, such authorization to be withheld, conditioned, or delayed by Affected System Interconnection Customer only if it can demonstrate that the acceleration would have a material adverse effect on it; and (2) the Affected System Interconnection Customer funds costs associated therewith in advance.

3.2 Interconnection Costs.

3.2.1 Costs. Affected System Interconnection Customer shall pay to Transmission Provider costs (including taxes and financing costs)

associated with seeking and obtaining all necessary approvals and of designing, engineering, constructing, and testing the Affected System Network Upgrade(s), as identified in Appendix A, in accordance with the cost recovery method provided herein. Unless Transmission Provider elects to fund the Affected System Network Upgrade(s), they shall be initially funded by Affected System Interconnection Customer.

3.2.1.1 **Lands of Other Property Owners.** If any part of the Affected System Network Upgrade(s) is to be installed on property owned by persons other than Affected System Interconnection Customer or Transmission Provider, Transmission Provider shall, at Affected System Interconnection Customer's expense, use efforts similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority to the extent permitted and consistent with Applicable Laws and Regulations and, to the extent consistent with such Applicable Laws and Regulations, to procure from such persons any rights of use, licenses, rights-of-way, and easements that are necessary to construct, operate, maintain, test, inspect, replace, or remove the Affected System Network Upgrade(s) upon such property.

3.2.2 Repayment.

3.2.2.1 **Repayment.** Consistent with Articles 11.4.1 and 11.4.2 of [the] Transmission Provider's pro forma LGIA, Affected System Interconnection Customer shall be entitled to a cash repayment by Transmission Provider of the amount paid to Transmission Provider, if any, for the Affected System Network Upgrade(s), including any tax gross-up or other tax-related payments associated with the Affected System Network Upgrade(s), and not refunded to Affected System Interconnection Customer pursuant to Article 3.3.1 or

otherwise. The Parties may mutually agree to a repayment schedule, to be outlined in Appendix A, not to exceed twenty (20) years from the commercial operation date, for the complete repayment for all applicable costs associated with the Affected System Network Upgrade(s). Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR 35.19 a(a)(2)(iii) from the date of any payment for Affected System Network Upgrade(s) through the date on which Affected System Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. Interest shall not accrue during periods in which Affected System Interconnection Customer has suspended construction pursuant to Article 3.1.2. Affected System Interconnection Customer may assign such repayment rights to any person.

3.2.2.2 Impact of Failure to Achieve Commercial Operation. If the Affected System Interconnection Customer's generating facility fails to achieve commercial operation, but it or another generating facility is later constructed and makes use of the Affected System Network Upgrade(s), Transmission Provider shall at that time reimburse Affected System Interconnection Customer for the amounts advanced for the Affected System Network Upgrade(s). Before any such reimbursement can occur, Affected System Interconnection Customer (or the entity that ultimately constructs the generating facility, if different), is responsible for identifying the entity to which the reimbursement must be made.

3.3 Taxes.

3.3.1 Indemnification for Contributions in Aid of Construction. With regard only to payments made by Affected System Interconnection Customer to

Transmission Provider for the installation of the Affected System Network Upgrade(s), Transmission Provider shall not include a gross-up for income taxes in the amounts it charges Affected System Interconnection Customer for the installation of the Affected System Network Upgrade(s) unless (1) Transmission Provider has determined, in good faith, that the payments or property transfers made by Affected System Interconnection Customer to Transmission Provider should be reported as income subject to taxation, or (2) any Governmental Authority directs Transmission Provider to report payments or property as income subject to taxation. Affected System Interconnection Customer shall reimburse Transmission Provider for such costs on a fully grossed-up basis, in accordance with this Article, within thirty (30) Calendar Days of receiving written notification from Transmission Provider of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration Of the ten (10)-year testing period and the applicable statute of limitation, as it may be extended by Transmission Provider upon request of the Internal Revenue Service, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article. Notwithstanding the foregoing provisions of this Article 3.3.1, and to the extent permitted by law, to the extent that the receipt of such payments by Transmission Provider is determined by any Governmental Authority to constitute income by Transmission Provider subject to taxation, Affected System Interconnection Customer shall protect, indemnify, and hold harmless Transmission Provider and its Affiliates, from all claims by any such Governmental Authority for any tax, interest, and/or penalties associated with such determination. Upon receiving written notification of such determination from the Governmental Authority, Transmission Provider shall provide Affected System Interconnection Customer with written notification within thirty (30) Calendar Days of such determination and notification. Transmission Provider, upon the timely written request by Affected System Interconnection Customer and at Affected System Interconnection Customer's expense, shall appeal, protest, seek abatement of, or otherwise

oppose such determination. Transmission Provider reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement, or other contest, including the compromise or settlement of the claim; provided that Transmission Provider shall cooperate and consult in good faith with Affected System Interconnection Customer regarding the conduct of such contest. Affected System Interconnection Customer shall not be required to pay Transmission Provider for the tax, interest, and/or penalties prior to the seventh (7^{th}) Calendar Day before the date on which Transmission Provider (1) is required to pay the tax, interest, and/or penalties or other amount in lieu thereof pursuant to a compromise or settlement of the appeal, protest, abatement, or other contest; (2) is required to pay the tax, interest, and/or penalties as the result of a final, non-appealable order by a Governmental Authority; or (3) is required to pay the tax, interest, and/or penalties as a prerequisite to an appeal, protest, abatement, or other contest. In the event such appeal, protest, abatement, or other contest results in a determination that Transmission Provider is not liable for any portion of any tax, interest, and/or penalties for which Affected System Interconnection Customer has already made payment to Transmission Provider, Transmission Provider shall promptly refund to Affected System Interconnection Customer any payment attributable to the amount determined to be non-taxable, plus any interest (calculated in accordance with 18 CFR 35.19a(a)(2)(iii)) or other payments Transmission Provider receives or which Transmission Provider may be entitled with respect to such payment. Affected System Interconnection Customer shall provide Transmission Provider with credit assurances sufficient to meet Affected System Interconnection Customer's estimated liability for reimbursement of Transmission Provider for taxes, interest, and/or penalties under this Article 3.3.1. Such estimated liability shall be stated in Appendix A.

To the extent that Transmission Provider is a limited liability company and not a corporation, and has elected to be taxed as a partnership, then the following shall apply: Transmission Provider represents, and the Parties acknowledge, that Transmission Provider is a limited liability company and is treated as a partnership for federal income tax purposes. Any payment made by Affected System Interconnection Customer to Transmission

Provider for Affected System Network Upgrade(s) is to be treated as an upfront payment. It is anticipated by the Parties that any amounts paid by Affected System Interconnection Customer to Transmission Provider for Affected System Network Upgrade(s) will be reimbursed to Affected System Interconnection Customer in accordance with the terms of this Agreement, provided Affected System Interconnection Customer fulfills its obligations under this Agreement.

3.3.2 Private Letter Ruling. At Affected System Interconnection Customer's request and expense, Transmission Provider shall file with the Internal Revenue Service a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Affected System Interconnection Customer to Transmission Provider under this Agreement are subject to federal income taxation. Affected System Interconnection Customer will prepare the initial draft of the request for a private letter ruling and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Affected System Interconnection Customer's knowledge. Transmission Provider and Affected System Interconnection Customer shall cooperate in good faith with respect to the submission of such request.

3.3.3 Other Taxes. Upon the timely request by Affected System Interconnection Customer, and at Affected System Interconnection Customer's sole expense, Transmission Provider shall appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Provider for which Affected System Interconnection Customer may be required to reimburse Transmission Provider under the terms of this Agreement. Affected System Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Affected System Interconnection Customer and Transmission Provider shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by

Affected System Interconnection Customer to Transmission Provider for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Affected System Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Provider. Each Party shall cooperate with the other Party to maintain each Party's tax status. Nothing in this Agreement is intended to adversely affect any Party's tax-exempt status with respect to the issuance of bonds including, but not limited to, local furnishing bonds, as described in section 142(f) of the Internal Revenue Code.

ARTICLE 4

SECURITY, BILLING, AND PAYMENTS

4.1 Provision of Security. By the earlier of (1) thirty (30) Calendar Days prior to the due date for Affected System Interconnection Customer's first payment under the payment schedule specified in Appendix A, or (2) the first date specified in Appendix A for the ordering of equipment by Transmission Provider for installing the Affected System Network Upgrade(s), Affected System Interconnection Customer shall provide Transmission Provider, at Affected System Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Provider. Such security for payment shall be in an amount sufficient to cover the costs for constructing, procuring, and installing the applicable portion of Affected System Network Upgrade(s) and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Provider for these purposes.

The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Provider and contain terms and conditions that guarantee payment of any amount that may be due from Affected System Interconnection Customer, up to an agreed-to maximum amount. The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Provider and must specify a reasonable expiration date. The surety

bond must be issued by an insurer reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

4.2 Invoice. Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due, if any, for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this Agreement, including interest payments, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

4.3 Payment. Invoices shall be rendered to the paying Party at the address specified by the Parties. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by a Party will not constitute a waiver of any rights or claims that Party may have under this Agreement.

4.4 Final Invoice. Within six (6) months after completion of the construction of the Affected System Network Upgrade(s), Transmission Provider shall provide an invoice of the final cost of the construction of the Affected System Network Upgrade(s) and shall set forth such costs in sufficient detail to enable Affected System Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Provider shall refund, with interest (calculated in accordance with 18 CFR 35.19a(a)(2)(iii)), to Affected System Interconnection Customer any amount by which the actual payment by Affected System Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

4.5 Interest. Interest on any unpaid amounts shall be calculated in accordance with 18 CFR 35.19a(a)(2)(iii).

4.6 Payment During Dispute. In the event of a billing dispute among the Parties, Transmission Provider shall continue to construct the Affected System Network Upgrade(s) under this Agreement as long as Affected System Interconnection Customer: (1) continues to make all payments not in dispute; and (2) pays to Transmission Provider or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Affected System Interconnection Customer fails to meet these two requirements, then Transmission Provider may provide notice to Affected System Interconnection Customer of a Default pursuant to Article 5. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to another Party shall pay the amount due with interest calculated in accordance with the methodology set forth in 18 CFR 35.19a(a)(2)(iii).

ARTICLE 5

BREACH, CURE AND DEFAULT

5.1 Events of Breach. A Breach of this Agreement shall include the:

(a) Failure to pay any amount when due;

(b) Failure to comply with any material term or condition of this Agreement, including but not limited to any material Breach of a representation, warranty, or covenant made in this Agreement;

(c) Failure of a Party to provide such access rights, or a Party's attempt to revoke access or terminate such access rights, as provided under this Agreement; or

(d) Failure of a Party to provide information or data to another Party as required under this Agreement, provided the Party entitled to the information or data under this Agreement requires such information or data to satisfy its obligations under this Agreement.

5.2 Definition. Breaching Party shall mean the Party that is in Breach**.**

5.3 Notice of Breach, Cure, and Default. Upon the occurrence of an event of Breach, the Party not in Breach, when it becomes aware of the Breach, shall give written notice of the Breach to the Breaching Party and to any other person representing a Party to this Agreement identified in writing to the other Party in advance. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach.

5.3.1 Upon receiving written notice of the Breach hereunder, the Breaching Party shall have a period to cure such Breach (hereinafter referred to as the "Cure Period") which shall be sixty (60) Calendar Days.

5.3.2 In the event the Breaching Party fails to cure within the Cure Period, the Breaching Party will be in Default of this Agreement, and the non-Defaulting Party may terminate this Agreement in accordance with Article 6.2 of this Agreement or take whatever action at law or in equity as may appear necessary or desirable to enforce the performance or observance of any rights, remedies, obligations, agreement, or covenants under this Agreement.

5.4 Rights in the Event of Default. Notwithstanding the foregoing, upon the occurrence of a Default, the non-Defaulting Party shall be entitled to exercise all rights and remedies it may have in equity or at law.

ARTICLE 6

TERMINATION OF AGREEMENT

6.1 Expiration of Term. Except as otherwise specified in this Article 6, the Parties' obligations under this Agreement shall terminate at the conclusion of the term of this Agreement.

6.2 Termination. In addition to the termination provisions set forth in Article 2.2, a Party may terminate this Agreement upon the Default of the other Party in accordance with Article 5.2.2 of this Agreement. Subject to the limitations set forth in Article 6.3, in the event of a Default, the termination of this Agreement by the non-Defaulting Party shall require a filing at FERC of a notice of termination, which filing must be accepted for filing by FERC.

6.3 Disposition of Facilities Upon Termination of Agreement.

6.3.1 Transmission Provider Obligations. Upon termination of this Agreement, unless otherwise agreed to by the Parties in writing, Transmission Provider:

(a) shall, prior to the construction and installation of any portion of the Affected System Network Upgrade(s) and to the extent possible, cancel any pending orders of, or return, such equipment or material for such Affected System Network Upgrade(s);

(b) may keep in place any portion of the Affected System Network Upgrade(s) already constructed and installed; and,

(c) shall perform such work as may be necessary to ensure the safety of persons and property and to preserve the integrity of Transmission

Provider's Transmission System (e.g., construction demobilization to return the system to its original state, wind-up work).

6.3.2 Affected System Interconnection Customer Obligations. Upon billing by Transmission Provider, Affected System Interconnection Customer shall reimburse Transmission Provider for any costs incurred by Transmission Provider in performance of the actions required or permitted by Article 6.3.1 and for the cost of any Affected System Network Upgrade(s) described in Appendix A. Transmission Provider shall use Reasonable Efforts to minimize costs and shall offset the amounts owed by any salvage value of facilities, if applicable. Affected System Interconnection Customer shall pay these costs pursuant to Article 4.3 of this Agreement.

6.3.3 Pre-construction or Installation. Upon termination of this Agreement and prior to the construction and installation of any portion of the Affected System Network Upgrade(s), Transmission Provider may, at its option, retain any portion of such Affected System Network Upgrade(s) not cancelled or returned in accordance with Article 6.3.1(a), in which case Transmission Provider shall be responsible for all costs associated with procuring such Affected System Network Upgrade(s). To the extent that Affected System Interconnection Customer has already paid Transmission Provider for any or all of such costs, Transmission Provider shall refund Affected System Interconnection Customer for those payments. If Transmission Provider elects to not retain any portion of such facilities, Transmission Provider shall convey and make available to Affected System Interconnection Customer such facilities as soon as practicable after Affected System Interconnection Customer's payment for such facilities.

6.4 Survival of Rights. Termination or expiration of this Agreement shall not relieve either Party of any of its liabilities and obligations arising hereunder prior to the date termination becomes effective, and each Party may take whatever judicial or administrative actions as appear necessary or desirable to enforce its rights hereunder. The applicable provisions of this Agreement will continue in effect after expiration, or early termination hereof to the extent necessary to provide for

(1) final billings, billing adjustments, and other billing procedures set forth in this Agreement; (2) the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect; and (3) the confidentiality provisions set forth in Article 8.

ARTICLE 7

SUBCONTRACTORS

7.1 Subcontractors. Nothing in this Agreement shall prevent a Party from utilizing the services of subcontractors, as it deems appropriate, to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services, and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

7.1.1 Responsibility of Principal. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. In accordance with the provisions of this Agreement, each Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any applicable obligation imposed by this Agreement upon a Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

7.1.2 No Third-Party Beneficiary. Except as may be specifically set forth to the contrary herein, no subcontractor or any other party is intended to be, nor will it be deemed to be, a third-party beneficiary of this Agreement.

7.1.3 No Limitation by Insurance. The obligations under this Article 7 will not be limited in any way by any limitation of any insurance policies or coverages, including any subcontractor's insurance.

ARTICLE 8

CONFIDENTIALITY

8.1 Confidentiality. Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied to the other Party prior to the execution of this Agreement.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential. The Parties shall maintain as confidential any information that is provided and identified by a Party as Critical Energy Infrastructure Information (CEII), as that term is defined in 18 CFR 388.113(c).

Such confidentiality will be maintained in accordance with this Article 8. If requested by the receiving Party, the disclosing Party shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

8.1.1 Term. During the term of this Agreement, and for a period of three (3) years after the expiration or termination of this Agreement, except as otherwise provided in this Article 8 or with regard to CEII, each Party shall hold in confidence and shall not disclose to any person Confidential Information. CEII shall be treated in accordance with FERC policies and regulations.

8.1.2 Scope. Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the

lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a non-Party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this Agreement; or (6) is required, in accordance with Article 8.1.6 of this Agreement, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Agreement. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the receiving Party that it no longer is confidential.

8.1.3 Release of Confidential Information. No Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, agents, consultants, or to non-Parties that may be or are considering providing financing to or equity participation with Affected System Interconnection Customer, or to potential purchasers or assignees of Affected System Interconnection Customer, on a need-to-know basis in connection with this Agreement, unless such person has first been advised of the confidentiality provisions of this Article 8 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 8.

8.1.4 Rights. Each Party shall retain all rights, title, and interest in the Confidential Information that it discloses to the receiving Party. The disclosure by a Party to the receiving Party of Confidential Information shall not be deemed a waiver by the disclosing Party or any other person or

entity of the right to protect the Confidential Information from public disclosure.

8.1.5 Standard of Care. Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication, or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this Agreement or its regulatory requirements.

8.1.6 Order of Disclosure. If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the disclosing Party with prompt notice of such request(s) or requirement(s) so that the disclosing Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

8.1.7 Termination of Agreement. Upon termination of this Agreement for any reason, each Party shall, within ten (10) Business Days of receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the requesting Party) or return to the requesting Party any and all written or electronic Confidential Information received from the requesting Party, except that each Party may keep one copy for archival purposes, provided that the obligation to treat it as Confidential Information in accordance with this Article 8 shall survive such termination.

8.1.8 Remedies. The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Article 8. Each Party accordingly agrees that the disclosing Party shall be entitled to equitable relief, by way of injunction or otherwise, if the receiving Party Breaches or threatens to Breach its obligations under this Article 8, which equitable relief shall be granted without bond or proof of damages, and the breaching Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 8, but it shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. Neither Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 8.

8.1.9 Disclosure to FERC, its Staff, or a State Regulatory Body. Notwithstanding anything in this Article 8 to the contrary, and pursuant to 18 CFR 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from a Party that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party to this Agreement prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the Agreement when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

8.1.10 Subject to the exception in Article 8.1.9, any information that a disclosing Party claims is competitively sensitive, commercial, or financial information under this Agreement shall not be disclosed by the receiving Party to any person not employed or retained by the receiving Party, except to the extent disclosure is (1) required by law; (2) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (3) otherwise permitted by consent of the disclosing Party, such consent not to be unreasonably withheld; or (4) necessary to fulfill its obligations under this Agreement or as [the] Transmission Provider or a balancing authority, including disclosing the Confidential Information to a regional or national reliability organization. The Party asserting confidentiality shall notify the receiving Party in writing of the information that Party claims is confidential. Prior to any disclosures of that Party's Confidential Information under this subparagraph, or if any non-Party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the Party that received the Confidential Information from the disclosing Party agrees to promptly notify the disclosing Party in writing and agrees to assert confidentiality and cooperate with the disclosing Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order, or other reasonable measures.

ARTICLE 9

INFORMATION ACCESS AND AUDIT RIGHTS

9.1 Information Access. Each Party shall make available to the other Party information necessary to verify the costs incurred by the other Party for which the requesting Party is responsible under this Agreement and carry out obligations and responsibilities under this Agreement, provided that the Parties shall not use such information for purposes other than those set forth in this Article 9.1 and to enforce their rights under this Agreement.

9.2 Audit Rights. Subject to the requirements of confidentiality under Article 8 of this Agreement, the accounts and records related to the design, engineering, procurement, and construction of the Affected System Network Upgrade(s) shall be subject to audit during the period of this Agreement and for a period of twenty-four (24) months following Transmission Provider's issuance of a final invoice in accordance with Article 4.4. Affected System Interconnection Customer at its expense shall have the right, during normal business hours, and upon prior reasonable notice to Transmission Provider, to audit such accounts and records. Any audit authorized by this Article 9.2 shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to obligations under this Agreement.

ARTICLE 10

NOTICES

10.1 General. Any notice, demand, or request required or permitted to be given by a Party to the other Party, and any instrument required or permitted to be tendered or delivered by a Party in writing to another Party, may be so given, tendered, or delivered, as the case may be, by depositing the same with the United States Postal Service with postage prepaid, for transmission by certified or registered mail, addressed to the Parties, or personally delivered to the Parties, at the address set out below:

To Transmission Provider:

To Affected System Interconnection Customer:

10.2 Billings and Payments. Billings and payments shall be sent to the addresses shown in Article 10.1 unless otherwise agreed to by the Parties.

10.3 Alternative Forms of Notice. Any notice or request required or permitted to be given by a Party to the other Party and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out below:

To Transmission Provider:

To Affected System Interconnection Customer:

10.4 Execution and Filing. Affected System Interconnection Customer shall either: (i) execute two originals of this tendered Agreement and return them to Transmission Provider; or (ii) request in writing that Transmission Provider file with FERC this Agreement in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of this tendered Agreement (if it does not conform with a FERC-approved standard form of this Agreement) or the request to file this Agreement unexecuted, Transmission Provider shall file this Agreement with FERC, together with its explanation of any matters as to which Affected System Interconnection Customer and Transmission Provider disagree and support for the costs that Transmission Provider proposes to charge to Affected System Interconnection Customer under this Agreement. An unexecuted version of this Agreement should contain terms and conditions deemed appropriate by Transmission Provider for the Affected System Interconnection Customer's generating facility. If the Parties agree to proceed with design, procurement, and construction of facilities and upgrades under the agreed-upon terms of the unexecuted version of this Agreement, they may proceed pending FERC action.

ARTICLE 11

MISCELLANEOUS

11.1 This Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, which reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of this LGIP.

{Signature Page to Follow}

IN WITNESS WHEREOF, the Parties have executed this Agreement in multiple originals, each of which shall constitute and be an original Agreement among the Parties.

Transmission Provider

{Transmission Provider}

By: _____

Name: _____

Title: _____

Affected System Interconnection Customer

{Affected System Interconnection Customer}

By: _____

Name: _____

Title: _____

Attachment A to Appendix 11

Two-Party Affected System Facilities Construction Agreement

AFFECTED SYSTEM NETWORK UPGRADE(S), COST ESTIMATES AND RESPONSIBILITY, CONSTRUCTION SCHEDULE AND MONTHLY PAYMENT SCHEDULE

This Appendix A is a part of the Affected System Facilities Construction Agreement between Affected System Interconnection Customer and Transmission Provider.

1.1 Affected System Network Upgrade(s) to be installed by Transmission Provider.

{description}

1.2 First Equipment Order (including permitting).

{description}

1.2.1. Permitting and Land Rights – Transmission Provider Affected System Network Upgrade(s)

{description}

1.3 Construction Schedule. Where applicable, construction of the Affected System Network Upgrade(s) is scheduled as follows and will be periodically updated as necessary:

Table 1: Transmission Provider Construction Activities

MILESTONE NUMBER	DESCRIPTION	START DATE	END DATE

Note: Construction schedule assumes that Transmission Provider has obtained final authorizations and security from Affected System Interconnection Customer and all necessary permits from Governmental Authorities as necessary prerequisites to commence construction of any of the Affected System Network Upgrade(s).

1.4 Payment Schedule.

1.4.1 Timing of and Adjustments to Affected System Interconnection Customer's Payments and Security.

{description}

1.4.2 Monthly Payment Schedule. Affected System Interconnection Customer's payment schedule is as follows.

{description}

Table 2: Affected System Interconnection Customer's Payment/Security Obligations for Affected System Network Upgrade(s).

MILESTONE NUMBER	DESCRIPTION	DATE

Note: Affected System Interconnection Customer's payment or provision of security as provided in this Agreement operates as a condition precedent to Transmission Provider's obligations to construct any Affected System Network Upgrade(s), and failure to meet this schedule will constitute a Breach pursuant to Article 5.1 of this Agreement.

1.5 Permits, Licenses, and Authorizations.

{description}

Attachment B to Appendix 11

Two-Party Affected System Facilities Construction Agreement

NOTIFICATION OF COMPLETED CONSTRUCTION

This Appendix B is a part of the Affected Systems Facilities Construction Agreement between Affected System Interconnection Customer and Transmission Provider. Where applicable, when Transmission Provider has completed construction of the Affected System Network Upgrade(s), Transmission Provider shall send notice to Affected System Interconnection Customer in substantially the form following:

{Date}

{Affected System Interconnection Customer Address}

Re: Completion of Affected System Network Upgrade(s)

Dear {Name or Title}:

This letter is sent pursuant to the Affected System Facilities Construction Agreement between {Transmission Provider} and {Affected System Interconnection Customer}, dated _____, 20___.

On {Date}, Transmission Provider completed to its satisfaction all work on the Affected System Network Upgrade(s) required to facilitate the safe and reliable interconnection and operation of Affected System Interconnection Customer's {description of generating facility}. Transmission Provider confirms that the Affected System Network Upgrade(s) are in place.

Thank you.

{Signature}

{Transmission Provider Representative}

Attachment C to Appendix 11

Two-Party Affected System Facilities Construction Agreement

EXHIBITS

This Appendix C is a part of the Affected System Facilities Construction Agreement [among] *between* Affected System Interconnection Customer and Transmission Provider.

Exhibit A1

Transmission Provider Site Map

Exhibit A2

Site Plan

Exhibit A3

Affected System Network Upgrade(s) Plan & Profile

Exhibit A4

Estimated Cost of Affected System Network Upgrade(s)

	Location	Facilities to Be Constructed by Transmission Provider	Estimate in Dollars

		Total:	

APPENDIX 12 TO LGIP

MULTIPARTY AFFECTED SYSTEM FACILITIES CONSTRUCTION AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__, by and among _____, organized and existing under the laws of the State of _____ (Affected System Interconnection Customer); _____, a _____ organized and existing under the laws of the State of _____ (Affected System Interconnection Customer); and_____, an entity organized *and existing* under the laws of the State of _____ (Transmission Provider). Affected System Interconnection Customers and Transmission Provider each may be referred to as a "Party" or collectively as the "Parties." When it is not important to differentiate among them, Affected System Interconnection Customers each may be referred to as "Affected System Interconnection Customer" or collectively as "Affected System Interconnection Customers."

RECITALS

WHEREAS, Affected System Interconnection Customers are proposing to develop {description of generating facilities or generating capacity additions to an existing generating facility}, consistent with the interconnection requests submitted by Affected System Interconnection Customers to {name of host transmission provider}, dated _____, for which {name of host transmission provider} found impacts on Transmission Provider's Transmission System; and

WHEREAS, Affected System Interconnection Customers desire to interconnect the {generating facilities} to {name of host transmission provider}'s transmission system; and

WHEREAS, additions, modifications, and upgrade(s) must be made to certain existing facilities of Transmission Provider's Transmission System to accommodate such interconnection; and

WHEREAS, Affected System Interconnection Customers have requested, and Transmission Provider has agreed, to enter into this Agreement for the purpose of facilitating the construction of necessary Affected System Network Upgrade(s);

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

When used in this Agreement, with initial capitalization, the terms specified and not otherwise defined in this Agreement shall have the meanings indicated in this LGIP.

ARTICLE 2

TERM OF AGREEMENT

2.1 Effective Date. This Agreement shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC.

2.2 Term.

2.2.1 General. This Agreement shall become effective as provided in Article 2.1 and shall continue in full force and effect until the earlier of (1) the final

repayment, where applicable, by Transmission Provider of the amount funded by Affected System Interconnection Customers for Transmission Provider's design, procurement, construction, and installation of the Affected System Network Upgrade(s) provided in Appendix A; (2) the Parties agree to mutually terminate this Agreement; (3) earlier termination is permitted or provided for under Appendix A of this Agreement; or (4) Affected System Interconnection Customers terminate this Agreement after providing Transmission Provider with written notice at least sixty (60) Calendar Days prior to the proposed termination date, provided that Affected System Interconnection Customers have no outstanding contractual obligations to Transmission Provider under this Agreement. No termination of this Agreement shall be effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination. The term of this Agreement may be adjusted upon mutual agreement of the Parties if the commercial operation date(s) for the {generating facilities} is adjusted in accordance with the rules and procedures established by {name of host transmission provider} or the in-service date for the Affected System Network Upgrade(s) is adjusted in accordance with the rules and procedures established by Transmission Provider.

2.2.2 Termination Upon Default. Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 5 of this Agreement where Breach and Breaching Party are defined in Article 5. Defaulting Party shall mean the Party that is in Default. In the event of a Default by a Party, each non-Defaulting Party shall have the termination rights described in Articles 5 and 6; provided, however, Transmission Provider may not terminate this Agreement if an Affected System Interconnection Customer is the Defaulting Party and compensates Transmission Provider within thirty (30) Calendar Days for the amount of damages billed to Affected System Interconnection Customer(s) by Transmission Provider for any such damages, including costs and expenses incurred by Transmission Provider as a result of such Default. Notwithstanding the foregoing, Default by one or more Affected System Interconnection Customers shall not provide the other Affected System Interconnection Customer(s), either individually or in concert, with the right to terminate the entire Agreement. The non-

Defaulting Party/Parties may, individually or in concert, initiate the removal of an Affected System Interconnection Customer that is a Defaulting Party from this Agreement. Transmission Provider shall not terminate this Agreement or the participation of any Affected System Interconnection Customer without provision being made for Transmission Provider to be fully reimbursed for all of its costs incurred under this Agreement.

2.2.3 Consequences of Termination. In the event of a termination by a Party, other than a termination by Affected System Interconnection Customer(s) due to a Default by Transmission Provider, each Affected System Interconnection Customer whose participation in this Agreement is terminated shall be responsible for the payment to Transmission Provider of all amounts then due and payable for construction and installation of the Affected System Network Upgrade(s) (including, without limitation, any equipment ordered related to such construction), plus all out-of-pocket expenses incurred by Transmission Provider in connection with the construction and installation of the Affected System Network Upgrade(s), through the date of termination, and, in the event of the termination of the entire Agreement, any actual costs which Transmission Provider reasonably incurs in (1) winding up work and construction demobilization and (2) ensuring the safety of persons and property and the integrity and safe and reliable operation of Transmission Provider's Transmission System. Transmission Provider shall use Reasonable Efforts to minimize such costs. The cost responsibility of other Affected System Interconnection Customers shall be adjusted, as necessary, based on the payments by an Affected System Interconnection Customer that is terminated from the Agreement.

2.2.4 Reservation of Rights. Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Affected System Interconnection Customers shall have the right to make a

unilateral filing with FERC to modify this Agreement pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

2.3 Filing. Transmission Provider shall file this Agreement (and any amendment hereto) with the appropriate Governmental Authority, if required. Affected System Interconnection Customers may request that any information so provided be subject to the confidentiality provisions of Article 8. Each Affected System Interconnection Customer that has executed this Agreement, or any amendment thereto, shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information reasonably requested by Transmission Provider needed to comply with applicable regulatory requirements.

2.4 Survival. This Agreement shall continue in effect after termination, to the extent necessary, to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this Agreement; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this Agreement or other applicable agreements, to disconnect, remove, or salvage its own facilities and equipment.

2.5 Termination Obligations. Upon any termination pursuant to this Agreement or termination of the participation in this Agreement of an Affected System Interconnection Customer, each Affected System Interconnection Customer shall be responsible for the payment of its proportionate share of all costs or other contractual obligations incurred prior to the termination date, including previously incurred capital costs, penalties for early termination, and costs of removal and site

restoration. The cost responsibility of the other Affected System Interconnection Customers shall be adjusted as necessary.

ARTICLE 3

CONSTRUCTION OF AFFECTED SYSTEM NETWORK UPGRADE(S)

3.1 Construction.

3.1.1 Transmission Provider Obligations. Transmission Provider shall (or shall cause such action to) design, procure, construct, and install, and Affected System Interconnection Customers shall pay, consistent with Article 3.2, the costs of all Affected System Network Upgrade(s) identified in Appendix A. All Affected System Network Upgrade(s) designed, procured, constructed, and installed by Transmission Provider pursuant to this Agreement shall satisfy all requirements of applicable safety and/or engineering codes and comply with Good Utility Practice, and further, shall satisfy all Applicable Laws and Regulations. Transmission Provider shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, or any Applicable Laws and Regulations.

3.1.2 Suspension of Work.

3.1.2.1 Right to Suspend. Affected System Interconnection Customers must jointly provide to Transmission Provider written notice of their request for suspension. Only the milestones described in the Appendices of this Agreement are subject to suspension under this Article 3.1.2. Affected System Network Upgrade(s) will be constructed on the schedule described in the Appendices of this Agreement unless: (1) construction is prevented by the order of a

Governmental Authority; (2) the Affected System Network Upgrade(s) are not needed by any other Interconnection Customer; or (3) Transmission Provider determines that a Force Majeure event prevents construction. In the event of (1), (2), or (3), any security paid to Transmission Provider under Article 4.1 of this Agreement shall be released by Transmission Provider upon the determination by Transmission Provider that the Affected System Network Upgrade(s) will no longer be constructed. If suspension occurs, Affected System Interconnection Customers shall be responsible for the costs which Transmission Provider incurs (i) in accordance with this Agreement prior to the suspension; (ii) in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of Transmission Provider's Transmission System and, if applicable, any costs incurred in connection with the cancellation of contracts and orders for material which Transmission Provider cannot reasonably avoid; and (iii) reasonably incurs in winding up work and construction demobilization; provided, however, that, prior to canceling any such contracts or orders, Transmission Provider shall obtain Affected System Interconnection Customers' authorization. Affected System Interconnection Customers shall be responsible for all costs incurred in connection with Affected System Interconnection Customers' failure to authorize cancellation of such contracts or orders.

Interest on amounts paid by Affected System Interconnection Customers to Transmission Provider for the design, procurement, construction, and installation of the Affected System Network Upgrade(s) shall not accrue during periods in which Affected System Interconnection Customers have suspended construction under this Article 3.1.2.

Transmission Provider shall invoice Affected System Interconnection Customers pursuant to Article 4 and will use Reasonable Efforts to minimize its costs. In the event Affected System Interconnection Customers suspend work by Affected System Transmission Provider required under this Agreement pursuant to this Article 3.1.2.1, and have not requested Affected System Transmission Provider to recommence the work required under this Agreement on or before the expiration of three (3) years following commencement of such suspension, this Agreement shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Affected System Transmission Provider, whichever is earlier, if no effective date of suspension is specified.

[3.1.2.2 Recommencing of Work. If Affected System Interconnection Customers request that Transmission Provider recommence construction of Affected System Network Upgrade(s), Transmission Provider shall have no obligation to afford such work the priority it would have had but for the prior actions of Affected System Interconnection Customers to suspend the work. In such event, Affected System Interconnection Customers shall be responsible for any costs incurred in recommencing the work. All recommenced work shall be completed pursuant to an amended schedule for the interconnection agreed to by the Parties. Transmission Provider has the right to conduct a restudy of the Affected System Study if conditions have materially changed subsequent to the request to suspend. Affected System Interconnection Customers shall be responsible for the costs of any studies or restudies required.]

[3.1.2.3 Right to Suspend Due to Default. Transmission Provider reserves the right, upon written notice to Affected System Interconnection Customers, to suspend, at any time, work by

Transmission Provider due to a Default by Affected System Interconnection Customer(s). Defaulting-Affected System Interconnection Customer(s) shall be responsible for any additional expenses incurred by Transmission Provider associated with the construction and installation of the Affected System Network Upgrade(s) (as set forth in Article 2.2.3) upon the occurrence of a Default pursuant to Article 5. Any form of suspension by Transmission Provider shall not be barred by Articles 2.2.2, 2.2.3, or 5.2.2, nor shall it affect Transmission Provider's right to terminate the work or this Agreement pursuant to Article 6.]

3.1.3 Construction Status. Transmission Provider shall keep Affected System Interconnection Customers advised periodically as to the progress of its design, procurement, and construction efforts, as described in Appendix A. An Affected System Interconnection Customer may, at any time and reasonably, request a progress report from Transmission Provider. If, at any time, an Affected System Interconnection Customer determines that the completion of the Affected System Network Upgrade(s) will not be required until after the specified in-service date, such Affected System Interconnection Customer will provide written notice to all other Parties of such later date for which the completion of the Affected System Network Upgrade(s) would be required. Transmission Provider may delay the in-service date of the Affected System Network Upgrade(s) accordingly, but only if agreed to by all other Affected System Interconnection Customers.

3.1.4 Timely Completion. Transmission Provider shall use Reasonable Efforts to design, procure, construct, install, and test the Affected System Network Upgrade(s) in accordance with the schedule set forth in Appendix A, which schedule may be revised from time to time by mutual agreement of the Parties. If any event occurs that will affect the time or ability to complete the Affected System Network Upgrade(s), Transmission Provider shall promptly notify all other Parties. In such circumstances, Transmission Provider shall, within fifteen (15) Calendar Days of such notice, convene a meeting with Affected System Interconnection Customers to evaluate the

alternatives available to Affected System Interconnection Customers. Transmission Provider shall also make available to Affected System Interconnection Customers all studies and work papers related to the event and corresponding delay, including all information that is in the possession of transmission Provider that is reasonably needed by Affected System Interconnection Customers to evaluate alternatives, subject to confidentiality arrangements consistent with Article 8. Transmission Provider shall, at any Affected System Interconnection Customer's request and expense, use Reasonable Efforts to accelerate its work under this Agreement to meet the schedule set forth in Appendix A, provided that (1) Affected System Interconnection Customers jointly authorize such actions, such authorizations to be withheld, conditioned, or delayed by a given Affected System Interconnection Customer only if it can demonstrate that the acceleration would have a material adverse effect on it; and (2) the requesting Affected System Interconnection Customer(s) funds the costs associated therewith in advance, or all Affected System Interconnection Customers agree in advance to fund such costs based on such other allocation method as they may adopt.

3.2 Interconnection Costs.

3.2.1 Costs. Affected System Interconnection Customers shall pay to Transmission Provider costs (including taxes and financing costs) associated with seeking and obtaining all necessary approvals and of designing, engineering, constructing, and testing the Affected System Network Upgrade(s), as identified in Appendix A, in accordance with the cost recovery method provided herein. Except as expressly otherwise agreed, Affected System Interconnection Customers shall be collectively responsible for these costs, based on their proportionate share of cost responsibility, as provided in Appendix A. Unless Transmission Provider elects to fund the Affected System Network Upgrade(s), they shall be initially funded by the applicable Affected System Interconnection Customer.

3.2.1.1 **Lands of Other Property Owners.** If any part of the Affected System Network Upgrade(s) is to be installed on property owned by persons other than Affected System Interconnection Customers or Transmission Provider, Transmission Provider shall, at Affected System Interconnection Customers' expense, use efforts similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority to the extent permitted and consistent with Applicable Laws and Regulations and, to the extent consistent with such Applicable Laws and Regulations, to procure from such persons any rights of use, licenses, rights-of-way, and easements that are necessary to construct, operate, maintain, test, inspect, replace, or remove the Affected System Network Upgrade(s) upon such property.

3.2.2 Repayment.

3.2.2.1 **Repayment.** Consistent with articles 11.4.1 and 11.4.2 of [the] Transmission Provider's pro forma LGIA, each Affected System Interconnection Customer shall be entitled to a cash repayment by Transmission Provider of the amount each Affected System Interconnection Customer paid to Transmission Provider, if any, for the Affected System Network Upgrade(s), including any tax gross-up or other tax-related payments associated with the Affected System Network Upgrade(s), and not refunded to Affected System Interconnection Customer pursuant to Article 3.3.1 or otherwise. The Parties may mutually agree to a repayment schedule, to be outlined in Appendix A, not to exceed twenty (20) years from the commercial operation date, for the complete repayment for all applicable costs associated with the Affected System Network Upgrade(s). Any repayment shall include interest calculated in accordance with the

methodology set forth in FERC's regulations at 18 CFR 35.19 a(a)(2)(iii) from the date of any payment for Affected System Network Upgrade(s) through the date on which Affected System Interconnection Customers receive a repayment of such payment pursuant to this subparagraph. Interest shall not accrue during periods in which Affected System Interconnection Customers have suspended construction pursuant to Article 3.1.2.1. Affected System Interconnection Customers may assign such repayment rights to any person.

3.2.2.2 Impact of Failure to Achieve Commercial Operation. If an Affected System Interconnection Customer's generating facility fails to achieve commercial operation, but it or another generating facility is later constructed and makes use of the Affected System Network Upgrade(s), Transmission Provider shall at that time reimburse such Affected System Interconnection Customers for the portion of the Affected System Network Upgrade(s) it funded. Before any such reimbursement can occur, Affected System Interconnection Customer (or the entity that ultimately constructs the generating facility, if different), is responsible for identifying the entity to which the reimbursement must be made.

3.3 Taxes.

3.3.1 Indemnification for Contributions in Aid of Construction. With regard only to payments made by Affected System Interconnection Customers to Transmission Provider for the installation of the Affected System Network Upgrade(s), Transmission Provider shall not include a gross-up for income taxes in the amounts it charges Affected System Interconnection Customers for the installation of the Affected System Network Upgrade(s) unless (1) Transmission Provider has determined, in good faith, that the payments or property transfers made by Affected System Interconnection Customers to

Transmission Provider should be reported as income subject to taxation, or (2) any Governmental Authority directs Transmission Provider to report payments or property as income subject to taxation. Affected System Interconnection Customers shall reimburse Transmission Provider for such costs on a fully grossed-up basis, in accordance with this Article, within thirty (30) Calendar Days of receiving written notification from Transmission Provider of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten (10)-year testing period and the applicable statute of limitation, as it may be extended by Transmission Provider upon request of the Internal Revenue Service, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article. Notwithstanding the foregoing provisions of this Article 3.3.1, and to the extent permitted by law, to the extent that the receipt of such payments by Transmission Provider is determined by any Governmental Authority to constitute income by Transmission Provider subject to taxation, Affected System Interconnection Customers shall protect, indemnify, and hold harmless Transmission Provider and its Affiliates, from all claims by any such Governmental Authority for any tax, interest, and/or penalties associated with such determination. Upon receiving written notification of such determination from the Governmental Authority, Transmission Provider shall provide Affected System Interconnection Customers with written notification within thirty (30) Calendar Days of such determination and notification. Transmission Provider, upon the timely written request by any one or more Affected System Interconnection Customer(s) and at the expense of such Affected System Interconnection Customer(s), shall appeal, protest, seek abatement of, or otherwise oppose such determination. Transmission Provider reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the compromise or settlement of the claim; provided that Transmission Provider shall cooperate and consult in good faith with the requesting Affected System Interconnection Customer(s) regarding the conduct of such contest.

Affected System Interconnection Customer(s) shall not be required to pay Transmission Provider for the tax, interest, and/or penalties prior to the seventh (7^{th}) Calendar Day before the date on which Transmission Provider (1) is required to pay the tax, interest, and/or penalties or other amount in lieu thereof pursuant to a compromise or settlement of the appeal, protest, abatement, or other contest; (2) is required to pay the tax, interest, and/or penalties as the result of a final, non-appealable order by a Governmental Authority; or (3) is required to pay the tax, interest, and/or penalties as a prerequisite to an appeal, protest, abatement, or other contest. In the event such appeal, protest, abatement, or other contest results in a determination that Transmission Provider is not liable for any portion of any tax, interest, and/or penalties for which any Affected System Interconnection Customer(s) has already made payment to Transmission Provider, Transmission Provider shall promptly refund to such Affected System Interconnection Customer(s) any payment attributable to the amount determined to be non-taxable, plus any interest (calculated in accordance with 18 CFR 35.19a(a)(2)(iii)) or other payments Transmission Provider receives or to which Transmission Provider may be entitled with respect to such payment. Each Affected System Interconnection Customer shall provide Transmission Provider with credit assurances sufficient to meet each Affected System Interconnection Customer's estimated liability for reimbursement of Transmission Provider for taxes, interest, and/or penalties under this Article 3.3.1. Such estimated liability shall be stated in Appendix A.

To the extent that Transmission Provider is a limited liability company and not a corporation, and has elected to be taxed as a partnership, then the following shall apply: Transmission Provider represents, and the Parties acknowledge, that Transmission Provider is a limited liability company and is treated as a partnership for federal income tax purposes. Any payment made by Affected System Interconnection Customers to Transmission Provider for Affected System Network Upgrade(s) is to be treated as an upfront payment. It is anticipated by the Parties that any amounts paid by each Affected System Interconnection Customer to Transmission Provider for Affected System Network Upgrade(s) will be reimbursed to such Affected System Interconnection Customer in accordance with the terms of

this Agreement, provided such Affected System Interconnection Customer fulfills its obligations under this Agreement.

3.3.2 Private Letter Ruling. At the request and expense of any Affected System Interconnection Customer(s), Transmission Provider shall file with the Internal Revenue Service a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by such Affected System Interconnection Customer(s) to Transmission Provider under this Agreement are subject to federal income taxation. Each Affected System Interconnection Customer desiring such a request will prepare the initial draft of the request for a private letter ruling and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of such Affected System Interconnection Customer's knowledge. Transmission Provider and such Affected System Interconnection Customer(s) shall cooperate in good faith with respect to the submission of such request.

3.3.3 Other Taxes. Upon the timely request by any one or more Affected System Interconnection Customer(s), and at such Affected System Interconnection Customer(s)' sole expense, Transmission Provider shall appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Provider for which such Affected System Interconnection Customer(s) may be required to reimburse Transmission Provider under the terms of this Agreement. Affected System Interconnection Customer(s) who requested the action shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. The requesting Affected System Interconnection Customer(s) and Transmission Provider shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Affected System Interconnection Customer(s) to Transmission Provider for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment

is withheld and ultimately due and payable after appeal, Affected System Interconnection Customer(s) will be responsible for all taxes, interest, and penalties, other than penalties attributable to any delay caused by Transmission Provider. Each Party shall cooperate with the other Party to maintain each Party's tax status. Nothing in this Agreement is intended to adversely affect any Party's tax-exempt status with respect to the issuance of bonds including, but not limited to, local furnishing bonds, as described in section 142(f) of the Internal Revenue Code.

ARTICLE 4

SECURITY, BILLING, AND PAYMENTS

4.1 Provision of Security. By the earlier of (1) thirty (30) Calendar Days prior to the due date for each Affected System Interconnection Customer's first payment under the payment schedule specified in Appendix A, or (2) the first date specified in Appendix A for the ordering of equipment by Transmission Provider for installing the Affected System Network Upgrade(s), each Affected System Interconnection Customer shall provide Transmission Provider, at each Affected System Interconnection Customer's option, a guarantee, a surety bond, letter of credit, or other form of security that is reasonably acceptable to Transmission Provider. Such security for payment shall be in an amount sufficient to cover the costs for constructing, procuring, and installing the applicable portion of Affected System Network Upgrade(s) and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Provider for these purposes.

The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Provider and contain terms and conditions that guarantee payment of any amount that may be due from such Affected System Interconnection Customer, up to an agreed-to maximum amount. The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Provider and must specify a reasonable expiration date. The surety bond must be issued by an insurer reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

4.2 Invoice. Each Party shall submit to the other Parties, on a monthly basis, invoices of amounts due, if any, for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to another Party under this Agreement, including interest payments, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

4.3 Payment. Invoices shall be rendered to the paying Party at the address specified by the Parties. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by a Party will not constitute a waiver of any rights or claims that Party may have under this Agreement.

4.4 Final Invoice. Within six (6) months after completion of the construction of the Affected System Network Upgrade(s) Transmission Provider shall provide an invoice of the final cost of the construction of the Affected System Network Upgrade(s) and shall set forth such costs in sufficient detail to enable each Affected System Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Provider shall refund, with interest (calculated in accordance with 18 CFR 35.19a(a)(2)(iii)), to each Affected System Interconnection Customer any amount by which the actual payment by Affected System Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

4.5 Interest. Interest on any unpaid amounts shall be calculated in accordance with 18 CFR 35.19a(a)(2)(iii).

4.6 Payment During Dispute. In the event of a billing dispute among the Parties, Transmission Provider shall continue to construct the Affected System Network Upgrade(s) under this Agreement as long as each Affected System Interconnection Customer: (1) continues to make all payments not in dispute; and (2) pays to Transmission Provider or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If any Affected System Interconnection Customer fails to meet these two requirements, then Transmission Provider may provide notice to such Affected System Interconnection Customer of a Default pursuant to Article 5. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to another Party shall pay the amount due with interest calculated in accordance with the methodology set forth in 18 CFR 35.19a(a)(2)(iii).

ARTICLE 5

BREACH, CURE, AND DEFAULT

5.1 Events of Breach. A Breach of this Agreement shall include the:

(a) Failure to pay any amount when due;

(b) Failure to comply with any material term or condition of this Agreement, including but not limited to any material Breach of a representation, warranty, or covenant made in this Agreement;

(c) Failure of a Party to provide such access rights, or a Party's attempt to revoke access or terminate such access rights, as provided under this Agreement; or

(d) Failure of a Party to provide information or data to another Party as required under this Agreement, provided the Party entitled to the

information or data under this Agreement requires such information or data to satisfy its obligations under this Agreement.

5.2 Definition. Breaching Party shall mean the Party that is in Breach.

5.3 Notice of Breach, Cure, and Default. Upon the occurrence of an event of Breach, any Party aggrieved by the Breach, when it becomes aware of the Breach, shall give written notice of the Breach to the Breaching Party and to any other person representing a Party to this Agreement identified in writing to the other Party in advance. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach.

5.2.1 Upon receiving written notice of the Breach hereunder, the Breaching Party shall have a period to cure such Breach (hereinafter referred to as the "Cure Period") which shall be sixty (60) Calendar Days. If an Affected System Interconnection Customer is the Breaching Party and the Breach results from a failure to provide payments or security under Article 4.1 of this Agreement, the other Affected System Interconnection Customers, either individually or in concert, may cure the Breach by paying the amounts owed or by providing adequate security, without waiver of contribution rights against the breaching Affected System Interconnection Customer. Such cure for the Breach of an Affected System Interconnection Customer is subject to the reasonable consent of Transmission Provider. Transmission Provider may also cure such Breach by funding the proportionate share of the Affected System Network Upgrade costs related to the Breach of Affected System Interconnection Customer. Transmission Provider must notify all Parties that it will exercise this option within thirty (30) Calendar Days of notification that an Affected System Interconnection Customer has failed to provide payments or security under Article 4.1.

5.2.2 In the event the Breach is not cured within the Cure Period, the Breaching Party will be in Default of this Agreement, and the non-Defaulting Parties may (1) act in concert to amend the Agreement to remove an Affected

System Interconnection Customer that is in Default from this Agreement for cause and to make other changes as necessary, or (2) either in concert or individually take whatever action at law or in equity as may appear necessary or desirable to enforce the performance or observance of any rights, remedies, obligations, agreement, or covenants under this Agreement.

5.3 Rights in the Event of Default. Notwithstanding the foregoing, upon the occurrence of Default, the non-Defaulting Parties shall be entitled to exercise all rights and remedies it may have in equity or at law.

ARTICLE 6

TERMINATION OF AGREEMENT

6.1 Expiration of Term. Except as otherwise specified in this Article 6, the Parties' obligations under this Agreement shall terminate at the conclusion of the term of this Agreement.

6.2 Termination and Removal. Subject to the limitations set forth in Article 6.3, in the event of a Default, termination of this Agreement, as to a given Affected System Interconnection Customer or in its entirety, shall require a filing at FERC of a notice of termination, which filing must be accepted for filing by FERC.

6.3 Disposition of Facilities Upon Termination of Agreement.

6.3.1 Transmission Provider Obligations. Upon termination of this Agreement, unless otherwise agreed to by the Parties in writing, Transmission Provider:

(a) shall, prior to the construction and installation of any portion of the Affected System Network Upgrade(s) and to the extent possible, cancel any pending orders of, or return, such equipment or material for such Affected System Network Upgrade(s);

(b) may keep in place any portion of the Affected System Network Upgrade(s) already constructed and installed; and,

(c) shall perform such work as may be necessary to ensure the safety of persons and property and to preserve the integrity of Transmission Provider's Transmission System (e.g., construction demobilization to return the system to its original state, wind-up work).

6.3.2 Affected System Interconnection Customer Obligations. Upon billing by Transmission Provider, each Affected System Interconnection Customer shall reimburse Transmission Provider for its share of any costs incurred by Transmission Provider in performance of the actions required or permitted by Article 6.3.1 and for its share of the cost of any Affected System Network Upgrade(s) described in Appendix A. Transmission Provider shall use Reasonable Efforts to minimize costs and shall offset the amounts owed by any salvage value of facilities, if applicable. Each Affected System Interconnection Customer shall pay these costs pursuant to Article 4.3 of this Agreement.

6.3.3 Pre-construction or Installation. Upon termination of this Agreement and prior to the construction and installation of any portion of the Affected System Network Upgrade(s), Transmission Provider may, at its option, retain any portion of such Affected System Network Upgrade(s) not cancelled or returned in accordance with Article 6.3.1(a), in which case Transmission Provider shall be responsible for all costs associated with procuring such Affected System Network Upgrade(s). To the extent that an Affected System Interconnection Customer has already paid Transmission Provider for any or all of such costs, Transmission Provider shall refund Affected System Interconnection Customer for those payments. If Transmission Provider elects to not retain any portion of such facilities, and one or more of Affected System Interconnection Customers wish to purchase such facilities, Transmission Provider shall convey and make available to the applicable Affected System Interconnection Customer(s) such facilities as soon as practicable after Affected System Interconnection Customer(s)' payment for such facilities.

6.4 Survival of Rights. Termination or expiration of this Agreement shall not relieve any Party of any of its liabilities and obligations arising hereunder prior to the date

termination becomes effective, and each Party may take whatever judicial or administrative actions as appear necessary or desirable to enforce its rights hereunder. The applicable provisions of this Agreement will continue in effect after expiration, or early termination hereof, to the extent necessary to provide for (1) final billings, billing adjustments, and other billing procedures set forth in this Agreement; (2) the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect; and (3) the confidentiality provisions set forth in Article 8.

ARTICLE 7

SUBCONTRACTORS

7.1 Subcontractors. Nothing in this Agreement shall prevent a Party from utilizing the services of subcontractors, as it deems appropriate, to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services, and each Party shall remain primarily liable to the other Parties for the performance of such subcontractor.

7.1.1 Responsibility of Principal. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. In accordance with the provisions of this Agreement, each Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any applicable obligation imposed by this Agreement upon a Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

7.1.2 No Third-Party Beneficiary. Except as may be specifically set forth to the contrary herein, no subcontractor or any other party is intended to be, nor will it be deemed to be, a third-party beneficiary of this Agreement.

7.1.3 No Limitation by Insurance. The obligations under this Article 7 will not be limited in any way by any limitation of any insurance policies or coverages, including any subcontractor's insurance.

ARTICLE 8

CONFIDENTIALITY

8.1 Confidentiality. Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied to the other Parties prior to the execution of this Agreement.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential. The Parties shall maintain as confidential any information that is provided and identified by a Party as Critical Energy Infrastructure Information (CEII), as that term is defined in 18 CFR 388.113(c).

Such confidentiality will be maintained in accordance with this Article 8. If requested by the receiving Party, the disclosing Party shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

8.1.1 Term. During the term of this Agreement, and for a period of three (3) years after the expiration or termination of this Agreement, except as otherwise provided in this Article 8 or with regard to CEII, each Party shall hold in confidence and shall not disclose to any

person Confidential Information. CEII shall be treated in accordance with FERC policies and regulations.

8.1.2 Scope. Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a non-Party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this Agreement; or (6) is required, in accordance with Article 8.1.6 of this Agreement, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Agreement. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the receiving Party that it no longer is confidential.

8.1.3 Release of Confidential Information. No Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, agents, consultants, or to non-Parties that may be or are considering providing financing to or equity participation with Affected System Interconnection Customer(s), or to potential purchasers or assignees of Affected System Interconnection Customer(s), on a need-to-know basis in connection with this Agreement, unless such person has first been advised of the confidentiality provisions of this Article 8 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party

providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 8.

8.1.4 Rights. Each Party shall retain all rights, title, and interest in the Confidential Information that it discloses to the receiving Party. The disclosure by a Party to the receiving Party of Confidential Information shall not be deemed a waiver by the disclosing Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

8.1.5 Standard of Care. Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication, or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this Agreement or its regulatory requirements.

8.1.6 Order of Disclosure. If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires any Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the disclosing Party with prompt notice of such request(s) or requirement(s) so that the disclosing Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

8.1.7 Termination of Agreement. Upon termination of this Agreement for any reason, each Party shall, within ten (10) Business Days of receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the requesting Party) or return to the requesting Party any and all written or electronic Confidential Information received from the requesting Party, except that each Party may keep one copy for archival purposes, provided that the obligation to treat it as Confidential Information in accordance with this Article 8 shall survive such termination.

8.1.8 Remedies. The Parties agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article 8. Each Party accordingly agrees that the disclosing Party shall be entitled to equitable relief, by way of injunction or otherwise, if the receiving Party Breaches or threatens to Breach its obligations under this Article 8, which equitable relief shall be granted without bond or proof of damages, and the Breaching Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 8, but it shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 8.

8.1.9 Disclosure to FERC, its Staff, or a State Regulatory Body. Notwithstanding anything in this Article 8 to the contrary, and pursuant to 18 CFR 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from a Party that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to

FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Parties to this Agreement prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Parties to the Agreement when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

8.1.10 Subject to the exception in Article 8.1.9, any information that a disclosing Party claims is competitively sensitive, commercial, or financial information under this Agreement shall not be disclosed by the receiving Party to any person not employed or retained by the receiving Party, except to the extent disclosure is (1) required by law; (2) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (3) otherwise permitted by consent of the disclosing Party, such consent not to be unreasonably withheld; or (4) necessary to fulfill its obligations under this Agreement or as Transmission Provider or a balancing authority, including disclosing the Confidential Information to a regional or national reliability organization. The Party asserting confidentiality shall notify the receiving Party in writing of the information that Party claims is confidential. Prior to any disclosures of that Party's Confidential Information under this subparagraph, or if any non-Party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the Party that received the Confidential Information from the disclosing Party agrees to promptly notify the disclosing

Party in writing and agrees to assert confidentiality and cooperate with the disclosing Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order, or other reasonable measures.

ARTICLE 9

INFORMATION ACCESS AND AUDIT RIGHTS

9.1 Information Access. Each Party shall make available to the other Parties information necessary to verify the costs incurred by the other Parties for which the requesting Party is responsible under this Agreement and carry out obligations and responsibilities under this Agreement, provided that the Parties shall not use such information for purposes other than those set forth in this Article 9.1 and to enforce their rights under this Agreement.

9.2 Audit Rights. Subject to the requirements of confidentiality under Article 8 of this Agreement, the accounts and records related to the design, engineering, procurement, and construction of the Affected System Network Upgrade(s) shall be subject to audit during the period of this Agreement and for a period of twenty-four (24) months following Transmission Provider's issuance of a final invoice in accordance with Article 4.4. Affected System Interconnection Customers may, jointly or individually, at the expense of the requesting Party(ies), during normal business hours, and upon prior reasonable notice to Transmission Provider, audit such accounts and records. Any audit authorized by this Article 9.2 shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to obligations under this Agreement.

ARTICLE 10

NOTICES

10.1 General. Any notice, demand, or request required or permitted to be given by a Party to the other Parties, and any instrument required or permitted to be tendered or delivered by a Party in writing to another Party, may be so given, tendered, or delivered, as the case may be, by depositing the same with the United States Postal Service with postage prepaid, for transmission by certified or registered mail, addressed to the Parties, or personally delivered to the Parties, at the address set out below:

To Transmission Provider:

To Affected System Interconnection Customers:

10.2 Billings and Payments. Billings and payments shall be sent to the addresses shown in Article 10.1 unless otherwise agreed to by the Parties.

10.3 Alternative Forms of Notice. Any notice or request required or permitted to be given by a Party to the other Parties and not required by this Agreement to be given in writing may be so given by telephone, facsimile, or email to the telephone numbers and email addresses set out below:

To Transmission Provider:

10.4 Execution and Filing. Affected System Interconnection Customers shall either: (i) execute two originals of this tendered Agreement and return them to Transmission Provider; or (ii) request in writing that Transmission Provider file with FERC this Agreement in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of this tendered Agreement (if it does not conform with a FERC-approved standard form of this Agreement) or the request to file this Agreement unexecuted, Transmission Provider shall file this Agreement with FERC, together with its explanation of any matters as to which Affected System Interconnection Customers and Transmission Provider disagree and support for the costs that Transmission Provider proposes to charge to Affected System Interconnection Customers under this Agreement. An unexecuted version of this Agreement should contain terms and conditions deemed appropriate by Transmission Provider for the Affected System Interconnection Customers' generating facilities. If the Parties agree to proceed with design, procurement, and construction of facilities and upgrades under the agreed-upon terms of the unexecuted version of this Agreement, they may proceed pending FERC action.

ARTICLE 11

MISCELLANEOUS

11.1 This Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability, and assignment, which reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All

of these provisions, to the extent practicable, shall be consistent with the provisions of this LGIP.

{Signature Page to Follow}

IN WITNESS WHEREOF, the Parties have executed this Agreement in multiple originals, each of which shall constitute and be an original Agreement among the Parties.

Transmission Provider

{Transmission Provider}

By: _____

Name: _____

Title: _____

Affected System Interconnection Customer

{Affected System Interconnection Customer}

By: _____

Name: _____

Title: _____

Project No. ____

Affected System Interconnection Customer

{Affected System Interconnection Customer}

By: _____

Name: _____

Title: _____

Docket No. RM22-14-001

Project No. ____

Attachment A to Appendix 12

Multiparty Affected System Facilities Construction Agreement

AFFECTED SYSTEM NETWORK UPGRADE(S), COST ESTIMATES AND RESPONSIBILITY, CONSTRUCTION SCHEDULE, AND MONTHLY PAYMENT SCHEDULE

This Appendix A is a part of the Multiparty Affected System Facilities Construction Agreement [between] *among* Affected System Interconnection Customers and Transmission Provider.

1.1 Affected System Network Upgrade(s) to be installed by Transmission Provider.

{description}

1.2 First Equipment Order (including permitting).

{description}

1.2.1. Permitting and Land Rights – Transmission Provider Affected System Network Upgrade(s)

1.3 Construction Schedule. Where applicable, construction of the Affected System Network Upgrade(s) is scheduled as follows and will be periodically updated as necessary:

Table 3: Transmission Provider Construction Activities

MILESTONE NUMBER	DESCRIPTION	START DATE	END DATE

Note: Construction schedule assumes that Transmission Provider has obtained final authorizations and security from Affected System Interconnection Customers and all necessary permits from Governmental Authorities as necessary prerequisites to commence construction of any of the Affected System Network Upgrade(s).

1.4 Payment Schedule.

1.4.1 Timing of and Adjustments to Affected System Interconnection Customers' Payments and Security.

{description}

1.4.2 Monthly Payment Schedule. Affected System Interconnection Customers' payment schedule is as follows.

{description}

Table 4: Affected System Interconnection Customers' Payment/Security Obligations for Affected System Network Upgrade(s).

MILESTONE NUMBER	***DESCRIPTION***	***DATE***

* Affected System Interconnection Customers' proportionate responsibility for each payment is as follows:

Affected System Interconnection Customer 1 ___._%

Affected System Interconnection Customer 2 ___._%

Affected System Interconnection Customer N ___._%

Note: Affected System Interconnection Customers' payment or provision of security as provided in this Agreement operates as a condition precedent to Transmission Provider's obligations to construct any Affected System Network Upgrade(s), and failure to meet this schedule will constitute a Breach pursuant to Article 5.1 of this Agreement.

1.5 Permits, Licenses, and Authorizations.

{description}

Attachment B to Appendix 12

Multiparty Affected System Facilities Construction Agreement

NOTIFICATION OF COMPLETED CONSTRUCTION

This Appendix B is a part of the Multiparty Affected System Facilities Construction Agreement among Affected System Interconnection Customers and Transmission Provider. Where applicable, when Transmission Provider has completed construction of the Affected System Network Upgrade(s), Transmission Provider shall send notice to Affected System Interconnection Customers in substantially the form following:

{Date}

{Affected System Interconnection Customers Addresses}

Re: Completion of Affected System Network Upgrade(s)

Dear {Name or Title}:

This letter is sent pursuant to the Multiparty Affected System Facilities Construction Agreement among {Transmission Provider} and {Affected System Interconnection Customers}, dated _____, 20___.

On {Date}, Transmission Provider completed to its satisfaction all work on the Affected System Network Upgrade(s) required to facilitate the safe and reliable interconnection and operation of Affected System Interconnection Customer's generating facilities. Transmission Provider confirms that the Affected System Network Upgrade(s) are in place.

Thank you.

{Signature}

{Transmission Provider Representative}

Attachment C to Appendix 12

Multiparty Affected System Facilities Construction Agreement

EXHIBITS

This Appendix C is a part of the Multiparty Affected System Facilities Construction Agreement among Affected System Interconnection Customers and Transmission Provider.

Exhibit A1

Transmission Provider Site Map

Exhibit A2

Site Plan

Exhibit A3

Affected System Network Upgrade(s) Plan & Profile

Exhibit A4

Estimated Cost of Affected System Network Upgrade(s)

	Location	Facilities to Be Constructed by Transmission Provider	Estimate in Dollars

		Total:	

Docket No. RM22-14-001
Appendix D: Changes to *pro forma* LGIA

Appendix 5 to the Standard Large

Generator Interconnection Procedures

STANDARD LARGE GENERATOR

INTERCONNECTION AGREEMENT (LGIA)

Docket No. RM22-14-001

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Docket No. RM22-14-001

STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT

THIS STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT ("Agreement") is made and entered into this ____ day of _____ 20__, by and between _____, a _____ organized and existing under the laws of the State/Commonwealth of _____ ("Interconnection Customer" with a Large Generating Facility), and

_____, a _____ organized and existing under the laws of the State/Commonwealth of _____ ("Transmission Provider and/or Transmission Owner"). Interconnection Customer and Transmission Provider each may be referred to as a "Party" or collectively as the "Parties."

Recitals

WHEREAS, Transmission Provider operates the Transmission System; and

WHEREAS, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Large Generating Facility in Appendix C to this Agreement; and,

WHEREAS, Interconnection Customer and Transmission Provider have agreed to enter into this Agreement for the purpose of interconnecting the Large Generating Facility with the Transmission System;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

When used in this Standard Large Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used or the Open Access Transmission Tariff (Tariff).

Article 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than [the] Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of [the] Transmission Provider's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Standards shall mean the requirements and guidelines of the Electric Reliability Organization and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected.

Balancing Authority shall mean an entity that integrates resource plans ahead of time, maintains demand and resource balance within a Balancing Authority Area, and supports interconnection frequency in real time.

Balancing Authority Area shall mean the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by Transmission Provider or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday.

Cluster shall mean a group of one or more Interconnection Requests that are studied together for the purpose of conducting a Cluster Study.

Cluster Restudy shall mean a restudy of a Cluster Study conducted pursuant to Section 7.5 of the LGIP.

Cluster Study shall mean the evaluation of one or more Interconnection Requests within a Cluster as described in Section 7 of the LGIP.

Clustering shall mean the process whereby one or more Interconnection Requests are studied together, instead of serially, as described in Section 7 of the LGIP.

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Contingent Facilities shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean [the] Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to [the] Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Electric Reliability Organization shall mean the North American Electric Reliability Corporation *(NERC)* or its successor organization.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of a Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Provider's Transmission System, Transmission Provider's Interconnection Facilities or the electric systems of others to which [the] Transmission Provider's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows [the] Interconnection Customer to connect its Generating Facility to [the] Transmission Provider's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or nonfirm capacity of [the] Transmission Provider's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes [the] Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's devices for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility or the aggregate net capacity of the Generating Facility where it includes more than one device for the production and/or storage for later injection of electricity.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good

business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which [the] Interconnection Customer reasonably expects it will be ready to begin use of [the] Transmission Provider's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including [the] Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with [the] Transmission Provider's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the

Generating Facility to [the] Transmission Provider's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities.

Interconnection Facilities shall mean Transmission Provider's Interconnection Facilities and Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Interconnection Facilities Study shall mean a study conducted by Transmission Provider or a third party consultant for Interconnection Customer to determine a list of facilities (including Transmission Provider's Interconnection Facilities and Network Upgrades as identified in the Cluster Study), the cost of those facilities, and the time required to interconnect the Generating Facility with Transmission Provider's Transmission System. The scope of the study is defined in Section 8 of the LGIP.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the LGIP, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with [the] Transmission Provider's Transmission System.

Interconnection Service shall mean the service provided by [the] Transmission Provider associated with interconnecting [the] Interconnection Customer's Generating Facility to [the] Transmission Provider's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, [the] Transmission Provider's Tariff.

Interconnection Study shall mean any of the following studies: the Cluster Study, the Cluster Restudy, the Surplus Interconnection Service [System Impact] Study, [and] the Interconnection Facilities Study, *the Affected System Study, Optional Interconnection Study, and Material Modification assessment,* described in the LGIP.

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and [the] Transmission Provider to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

LGIA Deposit shall mean the deposit Interconnection Customer submits when returning the executed LGIA, or within *ten (*10*)* Business Days of requesting that the LGIA be filed unexecuted at the Commission, in accordance with Section 11.3 of the LGIP.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Interconnection Request with an equal or later Queue Position.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows [the] Interconnection Customer to integrate its Large Generating Facility with [the] Transmission Provider's Transmission System (1) in a manner comparable to that in which [the] Transmission Provider integrates its generating

facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to [the] Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to [the] Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to [the] Transmission Provider's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

Optional Interconnection Study shall mean a sensitivity analysis based on assumptions specified by [the] Interconnection Customer in the Optional Interconnection Study Agreement.

Optional Interconnection Study Agreement shall mean the form of agreement contained in Appendix 4 of the LGIP for conducting the Optional Interconnection Study.

Party or Parties shall mean Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where [the] Interconnection Customer's Interconnection Facilities connect to [the] Transmission Provider's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to [the] Transmission Provider's Transmission System.

Proportional Impact Method shall mean a technical analysis conducted by Transmission Provider to determine the degree to which each Generating Facility in the Cluster Study contributes to the need for a specific System Network Upgrade.

Provisional Interconnection Service shall mean Interconnection Service provided by Transmission Provider associated with interconnecting [the] Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the

Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Provider and/or the Transmission Owner and [the] Interconnection Customer. This agreement shall take the form of the *Standard* Large Generator Interconnection Agreement, modified for provisional purposes.

Queue Position shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, established pursuant to Section 4.1 of this LGIP.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Scoping Meeting shall mean the meeting between representatives of Interconnection Customer(s) and Transmission Provider conducted for the purpose of discussing the proposed Interconnection Request and any alternative interconnection options, exchanging information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, refining information and models provided by Interconnection Customer(s), discussing the Cluster Study materials posted to OASIS pursuant to Section 3.5 of the LGIP, and analyzing such information.

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility; (2) an option to purchase or acquire a leasehold site of sufficient size to construct and operate the Generating Facility for such purpose; or (3) any other documentation that clearly demonstrates the right of Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Transmission Provider will maintain acreage requirements for each Generating Facility type on its OASIS or public website.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction [and the following conditions are met: (1) a Substation Network Upgrade must only be required for a single Interconnection Customer in the Cluster and no other Interconnection Customer in that Cluster is required to interconnect to the same Substation Network Upgrades, and (2) a System Network Upgrade must only be required for a single Interconnection Customer in the Cluster, as indicated under Transmission Provider's Proportional Impact Method]. Both Transmission Provider and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, Transmission Provider must provide Interconnection Customer a written technical explanation outlining why Transmission Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within *fifteen (*15*) Business* [d]*D*ays of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in [the] Transmission Provider's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in [the] Transmission Provider's Tariff.

Substation Network Upgrades shall mean Network Upgrades that are required at the substation located at the Point of Interconnection.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a *Standard* Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

System Network Upgrades shall mean Network Upgrades that are required beyond the substation located at the Point of Interconnection.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) [the] Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical

system disturbances occurring on [the] Transmission Provider's Transmission System or on other delivery systems or other generating systems to which [the] Transmission Provider's Transmission System is directly connected.

Tariff shall mean [the] Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Standard Large Generator Interconnection Agreement to the extent necessary.

Transmission Provider shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from [the] Transmission Provider.

Transmission Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled, or operated by Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

Transmission System shall mean the facilities owned, controlled or operated by [the] Transmission Provider or Transmission Owner that are used to provide transmission service under the Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Variable Energy Resource shall mean a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

Withdrawal Penalty shall mean the penalty assessed by Transmission Provider to an Interconnection Customer that chooses to withdraw or is deemed withdrawn from Transmission Provider's interconnection queue or whose Generating Facility does not otherwise reach Commercial Operation. The calculation of the Withdrawal Penalty is set forth in Section 3.7.1 of the LGIP.

Article 2. Effective Date, Term, and Termination

2.1 Effective Date. This LGIA shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC. Transmission Provider shall promptly file this LGIA with FERC upon execution in accordance with Article 3.1, if required.

2.2 Term of Agreement. Subject to the provisions of Article 2.3, this LGIA shall remain in effect for a period of ten (10) years from the Effective Date or such other longer period as Interconnection Customer may request (Term to be specified in individual agreements) and shall be automatically renewed for each successive one-year period thereafter.

2.3 Termination Procedures.

2.3.1 Written Notice. This LGIA may be terminated by Interconnection Customer after giving Transmission Provider ninety (90) Calendar Days advance written notice, or by Transmission Provider notifying FERC after the Generating Facility permanently ceases Commercial Operation.

2.3.2 Default. Either Party may terminate this LGIA in accordance with Article 17.

2.3.3 Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this LGIA, which notice has been accepted for filing by FERC.

2.4 Termination Costs. If a Party elects to terminate this Agreement pursuant to Article 2.3 above, each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges assessed by the other Party, as of the date of the other Party's receipt of such notice of termination, that are the responsibility of the Terminating Party under this LGIA. In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this LGIA, unless otherwise ordered or approved by FERC:

2.4.1 With respect to any portion of Transmission Provider's Interconnection Facilities that have not yet been constructed or installed, Transmission Provider shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Provider shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Transmission Provider for any or all such costs of materials or equipment not taken by Interconnection Customer, Transmission Provider shall promptly refund such amounts to Interconnection Customer, less any costs, including penalties incurred by Transmission Provider to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this LGIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Network Upgrades for which Transmission Provider has incurred expenses and has not been reimbursed by Interconnection Customer.

2.4.2 Transmission Provider may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Transmission Provider shall be responsible for all costs associated with procuring such materials, equipment, or facilities.

2.4.3 With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this LGIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

2.5 Disconnection. Upon termination of this LGIA, the Parties will take all appropriate steps to disconnect the Large Generating Facility from the Transmission System. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this LGIA or such non-terminating Party otherwise is responsible for these costs under this LGIA.

2.6 Survival. This LGIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this LGIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this LGIA was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this LGIA or

other applicable agreements, to disconnect, remove or salvage its own facilities and equipment.

Article 3. Regulatory Filings

3.1 Filing. Transmission Provider shall file this LGIA (and any amendment hereto) with the appropriate Governmental Authority, if required. Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 22. If Interconnection Customer has executed this LGIA, or any amendment thereto, Interconnection Customer shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information reasonably requested by Transmission Provider needed to comply with applicable regulatory requirements.

Article 4. Scope of Service

4.1 Interconnection Product Options. Interconnection Customer has selected the following (checked) type of Interconnection Service:

4.1.1 Energy Resource Interconnection Service.

4.1.1.1 The Product. Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. To the extent Interconnection Customer wants to receive Energy

Resource Interconnection Service, Transmission Provider shall construct facilities identified in Attachment A.

4.1.1.2 Transmission Delivery Service Implications.

Under Energy Resource Interconnection Service, Interconnection Customer will be eligible to inject power from the Large Generating Facility into and deliver power across the interconnecting Transmission Provider's Transmission System on an "as available" basis up to the amount of MWs identified in the applicable stability and steady state studies to the extent the upgrades initially required to qualify for Energy Resource Interconnection Service have been constructed. Where eligible to do so (e.g., PJM, ISO-NE, NYISO), Interconnection Customer may place a bid to sell into the market up to the maximum identified Large Generating Facility output, subject to any conditions specified in the interconnection service approval, and the Large Generating Facility will be dispatched to the extent Interconnection Customer's bid clears. In all other instances, no transmission delivery service from the Large Generating Facility is assured, but Interconnection Customer may obtain Point-to-Point Transmission Service, Network Integration Transmission Service, or be used for secondary network transmission service, pursuant to Transmission Provider's Tariff, up to the maximum output identified in the stability and steady state studies. In those instances, in order for Interconnection Customer to obtain the right to deliver or inject energy beyond the Large Generating Facility Point of Interconnection or to improve its ability to do so, transmission delivery service must be obtained pursuant to the provisions of Transmission Provider's Tariff. [The] Interconnection Customer's ability to inject its Large Generating Facility output beyond the Point of Interconnection, therefore, will depend on the existing capacity of Transmission Provider's Transmission System at such time as a transmission service request is made that would accommodate such delivery. The provision of firm

Point-to-Point Transmission Service or Network Integration Transmission Service may require the construction of additional Network Upgrades.

4.1.2 Network Resource Interconnection Service.

4.1.2.1 The Product. Transmission Provider must conduct the necessary studies and construct the Network Upgrades needed to integrate the Large Generating Facility (1) in a manner comparable to that in which Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market based congestion management, in the same manner as all Network Resources. To the extent Interconnection Customer wants to receive Network Resource Interconnection Service, Transmission Provider shall construct the facilities identified in Attachment A to this LGIA.

4.1.2.2 Transmission Delivery Service Implications. Network Resource Interconnection Service allows Interconnection Customer's Large Generating Facility to be designated by any Network Customer under the Tariff on Transmission Provider's Transmission System as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. Although Network Resource Interconnection Service does not convey a reservation of transmission service, any Network Customer under the Tariff can utilize its network service under the Tariff to obtain delivery of energy from the interconnected Interconnection Customer's Large Generating Facility in the same manner as it accesses Network Resources. A Large Generating Facility

receiving Network Resource Interconnection Service may also be used to provide Ancillary Services after technical studies and/or periodic analyses are performed with respect to the Large Generating Facility's ability to provide any applicable Ancillary Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Network Resource. However, if an Interconnection Customer's Large Generating Facility has not been designated as a Network Resource by any load, it cannot be required to provide Ancillary Services except to the extent such requirements extend to all generating facilities that are similarly situated. The provision of Network Integration Transmission Service or firm Point-to-Point Transmission Service may require additional studies and the construction of additional upgrades. Because such studies and upgrades would be associated with a request for delivery service under the Tariff, cost responsibility for the studies and upgrades would be in accordance with FERC's policy for pricing transmission delivery services.

Network Resource Interconnection Service does not necessarily provide Interconnection Customer with the capability to physically deliver the output of its Large Generating Facility to any particular load on Transmission Provider's Transmission System without incurring congestion costs. In the event of transmission constraints on Transmission Provider's Transmission System, Interconnection Customer's Large Generating Facility shall be subject to the applicable congestion management procedures in Transmission Provider's Transmission System in the same manner as Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that

Interconnection Customer's Large Generating Facility be designated as a Network Resource by a Network Service Customer under the Tariff or that Interconnection Customer identify a specific buyer (or sink). To the extent a Network Customer does designate the Large Generating Facility as a Network Resource, it must do so pursuant to Transmission Provider's Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining Network Resource Interconnection Service, any future transmission service request for delivery from the Large Generating Facility within Transmission Provider's Transmission System of any amount of capacity and/or energy, up to the amount initially studied, will not require that any additional studies be performed or that any further upgrades associated with such Large Generating Facility be undertaken, regardless of whether or not such Large Generating Facility is ever designated by a Network Customer as a Network Resource and regardless of changes in ownership of the Large Generating Facility. However, the reduction or elimination of congestion or redispatch costs may require additional studies and the construction of additional upgrades.

To the extent Interconnection Customer enters into an arrangement for long term transmission service for deliveries from the Large Generating Facility outside Transmission Provider's Transmission System, such request may require additional studies and upgrades in order for Transmission Provider to grant such request.

4.2 Provision of Service. Transmission Provider shall provide Interconnection Service for the Large Generating Facility at the Point of Interconnection.

4.3 Performance Standards. Each Party shall perform all of its obligations under this LGIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this LGIA for its compliance therewith. If such Party is a Transmission Provider or Transmission Owner, then that Party shall amend the LGIA and submit the amendment to FERC for approval.

4.4 No Transmission Delivery Service. The execution of this LGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Provider's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.

4.5 Interconnection Customer Provided Services. The services provided by Interconnection Customer under this LGIA are set forth in Article 9.6 and Article 13.5.1. Interconnection Customer shall be paid for such services in accordance with Article 11.6.

Article 5. Interconnection Facilities Engineering, Procurement, and Construction

5.1 Options. Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select the In-Service Date, Initial Synchronization Date, and Commercial Operation Date; and either the Standard Option or Alternate Option set forth below, and such dates and selected option shall be set forth in Appendix B, Milestones. At the same time, Interconnection Customer shall indicate whether it elects to exercise the Option to Build set forth in Article 5.1.3 below. If the dates designated by Interconnection Customer are not acceptable to Transmission Provider, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Transmission Provider, [the] Interconnection Customer shall notify Transmission

Provider within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build.

5.1.1 Standard Option. Transmission Provider shall design, procure, and construct Transmission Provider's Interconnection Facilities and Network Upgrades, using Reasonable Efforts to complete Transmission Provider's Interconnection Facilities and Network Upgrades by the dates set forth in Appendix B, Milestones. Transmission Provider shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event Transmission Provider reasonably expects that it will not be able to complete Transmission Provider's Interconnection Facilities and Network Upgrades by the specified dates, Transmission Provider shall promptly provide written notice to Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.1.2 Alternate Option. If the dates designated by Interconnection Customer are acceptable to Transmission Provider, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days, and shall assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities by the designated dates.

If Transmission Provider subsequently fails to complete Transmission Provider's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B, Milestones; Transmission Provider shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by

Interconnection Customer shall be extended day for day for each day that the applicable RTO or ISO refuses to grant clearances to install equipment.

5.1.3 Option to Build. *Individual or Multiple* Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2, *if the requirements of this Article 5.1.3 are met*. *When multiple Interconnection Customers exercise this option, multiple Interconnection Customers may agree to exercise this option provided (1) all Transmission Provider's Interconnection Facilities and Stand Alone Network upgrades constructed under this option are only required for Interconnection Customers in a single Cluster and (2) all impacted Interconnection Customers execute and provide to Transmission Provider an agreement regarding responsibilities and payment for the construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades planned to be built under this option.* Transmission Provider and *the individual Interconnection Customer or each of the multiple* Interconnection Customer*s* must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

5.1.4 Negotiated Option. If the dates designated by Interconnection Customer are not acceptable to Transmission Provider, the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades if [the] Interconnection Customer elects to exercise the Option to Build under Article 5.1.3). If the Parties are unable to reach agreement on such terms and conditions, then pursuant to Article 5.1.1 (Standard Option), Transmission Provider shall assume responsibility for the design, procurement and construction of all facilities other than Transmission

Provider's Interconnection Facilities and Stand Alone Network Upgrades if [the] Interconnection Customer elects to exercise the Option to Build.

5.2 General Conditions Applicable to Option to Build. If Interconnection Customer assumes responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades,

(1) Interconnection Customer shall engineer, procure equipment, and construct Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Transmission Provider;

(2) Interconnection Customer's engineering, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law to which Transmission Provider would be subject in the engineering, procurement or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(3) Transmission Provider shall review and approve the engineering design, equipment acceptance tests, and the construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(4) prior to commencement of construction, Interconnection Customer shall provide to Transmission Provider a schedule for construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider;

(5) at any time during construction, Transmission Provider shall have the right to gain unrestricted access to Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(6) at any time during construction, should any phase of the engineering, equipment procurement, or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Provider, Interconnection Customer shall be obligated to remedy deficiencies in that portion of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(7) Interconnection Customer shall indemnify Transmission Provider for claims arising from Interconnection Customer's construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 Indemnity;

(8) Interconnection Customer shall transfer control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Provider;

(9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Transmission Provider's Interconnection Facilities and Stand-Alone Network Upgrades to Transmission Provider;

(10) Transmission Provider shall approve and accept for operation and maintenance Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2; and

(11) Interconnection Customer shall deliver to Transmission Provider "as-built" drawings, information, and any other documents that are reasonably required by Transmission Provider to assure that the Interconnection Facilities and Stand-Alone Network Upgrades are built to the standards and specifications required by Transmission Provider.

(12) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, Interconnection Customer shall pay Transmission Provider the agreed upon amount of {$ PLACEHOLDER} for Transmission Provider to execute the responsibilities enumerated to Transmission Provider under Article 5.2. Transmission Provider shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

5.3 Liquidated Damages. The actual damages to Interconnection Customer, in the event Transmission Provider's Interconnection Facilities or Network Upgrades are not completed by the dates designated by Interconnection Customer and accepted by Transmission Provider pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by Transmission Provider to Interconnection Customer in the event that Transmission Provider does not complete any portion of Transmission Provider's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to ½ of 1 percent per day of the actual cost of Transmission Provider's Interconnection Facilities and Network Upgrades, in the aggregate, for which Transmission Provider has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of Transmission Provider's Interconnection Facilities and Network Upgrades for which Transmission Provider has assumed responsibility to design, procure, and construct. The foregoing payments will be made by Transmission Provider to Interconnection Customer as just compensation for the damages

caused to Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this LGIA. Liquidated damages, when the Parties agree to them, are the exclusive remedy for [the] Transmission Provider's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) Interconnection Customer is not ready to commence use of Transmission Provider's Interconnection Facilities or Network Upgrades to take the delivery of power for the Large Generating Facility's Trial Operation or to export power from the Large Generating Facility on the specified dates, unless Interconnection Customer would have been able to commence use of Transmission Provider's Interconnection Facilities or Network Upgrades to take the delivery of power for Large Generating Facility's Trial Operation or to export power from the Large Generating Facility, but for Transmission Provider's delay; (2) Transmission Provider's failure to meet the specified dates is the result of the action or inaction of Interconnection Customer or any other Interconnection Customer who has entered into an LGIA with Transmission Provider or any cause beyond Transmission Provider's reasonable control or reasonable ability to cure; (3) [the] Interconnection Customer has assumed responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades; or (4) the Parties have otherwise agreed.

5.4 Power System Stabilizers. Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with the guidelines and procedures established by the Electric Reliability Organization. Transmission Provider reserves the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Large Generating Facility. If the Large Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative. The requirements of this paragraph shall not apply to wind generators.

5.5 Equipment Procurement. If responsibility for construction of Transmission Provider's Interconnection Facilities or Network Upgrades is to be borne by Transmission Provider, then Transmission Provider shall commence design of Transmission Provider's Interconnection Facilities or Network Upgrades and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

5.5.1 Transmission Provider has completed the *Interconnection* Facilities Study pursuant to the *Interconnection* Facilities Study Agreement;

5.5.2 Transmission Provider has received written authorization to proceed with design and procurement from Interconnection Customer by the date specified in Appendix B, Milestones; and

5.5.3 Interconnection Customer has provided security to Transmission Provider in accordance with Article 11.5 by the dates specified in Appendix B, Milestones.

5.6 Construction Commencement. Transmission Provider shall commence construction of Transmission Provider's Interconnection Facilities and Network Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

5.6.1 Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;

5.6.2 Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of Transmission Provider's Interconnection Facilities and Network Upgrades;

5.6.3 Transmission Provider has received written authorization to proceed with construction from Interconnection Customer by the date specified in Appendix B, Milestones; and

5.6.4 Interconnection Customer has provided security to Transmission Provider in accordance with Article 11.5 by the dates specified in Appendix B, Milestones.

5.7 Work Progress. The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time, request a progress report from the other Party. If, at any time, Interconnection Customer determines that the completion of Transmission Provider's Interconnection Facilities will not be required until after the specified In-Service Date, Interconnection Customer will provide written notice to Transmission Provider of such later date upon which the completion of Transmission Provider's Interconnection Facilities will be required.

5.8 Information Exchange. As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with Transmission Provider's Transmission System, and shall work diligently and in good faith to make any necessary design changes.

5.9 Other Interconnection Options.

5.9.1 Limited Operation. If any of Transmission Provider's Interconnection Facilities or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Large Generating Facility, Transmission Provider shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Large Generating Facility and Interconnection Customer's Interconnection Facilities may operate prior to

the completion of Transmission Provider's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this LGIA. Transmission Provider shall permit Interconnection Customer to operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with the results of such studies.

5.9.2 Provisional Interconnection Service. Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities Transmission Provider may execute a Provisional Large Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Large Generator Interconnection Agreement with [the] Interconnection Customer for limited Interconnection Service at the discretion of Transmission Provider based upon an evaluation that will consider the results of available studies. Transmission Provider shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Generating Facility or Transmission System. Transmission Provider shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of the Electric Reliability Organization, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Generating Facility are in place prior to the commencement of Interconnection Service from the Generating Facility. Where available studies indicate that such, Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Generating Facility are not currently in place, Transmission Provider will perform a study, at [the] Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Generating Facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated {on a frequency determined by Transmission Provider and at [the] Interconnection Customer's expense}.

Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Large Generator Interconnection Agreement and the Large Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

5.10 Interconnection Customer's Interconnection Facilities ('ICIF'). Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.10.1 Interconnection Customer's Interconnection Facility Specifications. Interconnection Customer shall submit initial specifications for the ICIF, including System Protection Facilities, to Transmission Provider at least one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Transmission Provider shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Provider and comment on such specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

5.10.2 Transmission Provider's Review. Transmission Provider's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Large Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Transmission Provider, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications,

operational control, and safety requirements of Transmission Provider.

5.10.3 ICIF Construction. The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Interconnection Customer shall deliver to Transmission Provider "as-built" drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Large Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with Interconnection Customer's step-up transformers, the facilities connecting the Large Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Large Generating Facility. [The] Interconnection Customer shall provide Transmission Provider specifications for the excitation system, automatic voltage regulator, Large Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

5.11 Transmission Provider's Interconnection Facilities Construction. Transmission Provider's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Transmission Provider shall deliver to Interconnection Customer the following "as-built" drawings, information and documents for Transmission Provider's Interconnection Facilities {include appropriate drawings and relay diagrams}.

Transmission Provider will obtain control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades upon completion of such facilities.

5.12 Access Rights. Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish at no cost to the other Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Large Generating Facility with the Transmission System; (ii) operate and maintain the Large Generating Facility, the Interconnection Facilities and the Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this LGIA. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

5.13 Lands of Other Property Owners. If any part of Transmission Provider or Transmission Owner's Interconnection Facilities and/or Network Upgrades is to be installed on property owned by persons other than Interconnection Customer or Transmission Provider or Transmission Owner, Transmission Provider or Transmission Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority, and to the extent consistent with state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove Transmission Provider or Transmission Owner's Interconnection Facilities and/or Network Upgrades upon such property.

5.14 Permits. Transmission Provider or Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses, and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Transmission Provider or Transmission Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to Transmission Provider's own, or an Affiliate's generation.

5.15 Early Construction of Base Case Facilities. Interconnection Customer may request Transmission Provider to construct, and Transmission Provider shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades required for Interconnection Customer to be interconnected to the Transmission System which are included in the Base Case of the *Interconnection* Facilities Study for Interconnection Customer, and which also are required to be constructed for another Interconnection Customer, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date.

5.16 Suspension. Interconnection Customer reserves the right, upon written notice to Transmission Provider, to suspend at any time all work by Transmission Provider associated with the construction and installation of Transmission Provider's Interconnection Facilities and/or Network Upgrades required under this LGIA with the condition that Transmission System shall be left in a safe and reliable condition in accordance with Good Utility Practice and Transmission Provider's safety and reliability criteria. In such event, Interconnection Customer shall be responsible for all reasonable and necessary costs which Transmission Provider (i) has incurred pursuant to this LGIA prior to the suspension and (ii) incurs in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the Transmission System during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Transmission Provider cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Transmission Provider shall obtain Interconnection Customer's authorization to do so.

Transmission Provider shall invoice Interconnection Customer for such costs pursuant to Article 12 and shall use due diligence to minimize its costs. In the event Interconnection Customer suspends work by Transmission Provider required under this LGIA pursuant to this Article 5.16, and has not requested Transmission Provider to recommence the work required under this LGIA on or before the expiration of three (3) years following commencement of such suspension, this LGIA shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Provider, if no effective date is specified.

5.17 Taxes.

5.17.1 Interconnection Customer Payments Not Taxable. The Parties intend that all payments or property transfers made by Interconnection Customer to Transmission Provider for the installation of Transmission Provider's Interconnection Facilities and the Network Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

5.17.2 Representations and Covenants. In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Large Generating Facility will pass to another party prior to the transmission of the electricity on the Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to Transmission Provider for Transmission Provider's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty

(20) years, and (iii) any portion of Transmission Provider's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Large Generating Facility. For this purpose, "de minimis amount" means no more than 5 percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 88-129. This is not intended to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Transmission Provider's request, Interconnection Customer shall provide Transmission Provider with a report from an independent engineer confirming its representation in clause (iii), above. Transmission Provider represents and covenants that the cost of Transmission Provider's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon [the] Transmission Provider.
Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Transmission Provider from the cost consequences of any current tax liability imposed against Transmission Provider as the result of payments or property transfers made by Interconnection Customer to Transmission Provider under this LGIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Transmission Provider.

Transmission Provider shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this LGIA unless (i) Transmission Provider has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Transmission Provider should be reported as income subject to taxation or (ii) any

Governmental Authority directs Transmission Provider to report payments or property as income subject to taxation; provided, however, that Transmission Provider may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Transmission Provider (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Transmission Provider for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Transmission Provider of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten year testing period and the applicable statute of limitation, as it may be extended by Transmission Provider upon request of the IRS, to keep these years open for audit or adjustment,

or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

5.17.4 **Tax Gross-Up Amount.** Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Transmission Provider, in addition to the amount paid for the Interconnection Facilities and Network Upgrades, an amount equal to (1) the current taxes imposed on Transmission Provider ("Current Taxes") on the excess of (a) the gross income realized by Transmission Provider as a result of payments or property transfers made by Interconnection Customer to Transmission Provider under this LGIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property

transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit Transmission Provider to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) Current Taxes shall be computed based on Transmission Provider's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Provider will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Transmission Provider's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Provider's current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows: (Current Tax Rate x (Gross Income Amount – Present Value of Tax Depreciation))/(1-Current Tax Rate). Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.17.5 Private Letter Ruling or Change or Clarification of Law. At Interconnection Customer's request and expense, Transmission Provider shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Transmission Provider under this LGIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Transmission Provider and Interconnection Customer shall cooperate in good faith with respect to the submission of such request.

Transmission Provider shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS, that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Provider shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.17.6 **Subsequent Taxable Events.** If, within 10 years from the date on which the relevant Transmission Provider's Interconnection Facilities are placed in service, (i) Interconnection Customer Breaches the covenants contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii) this LGIA terminates and Transmission Provider retains ownership of the Interconnection Facilities and Network Upgrades, Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Transmission Provider, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

5.17.7 **Contests.** In the event any Governmental Authority determines that Transmission Provider's receipt of payments or property constitutes income that is subject to taxation, Transmission Provider shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Transmission Provider may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Transmission Provider may file a claim for refund with respect to any taxes paid under this

Article 5.17, whether or not it has received such a determination. Transmission Provider reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Transmission Provider shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.

Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Transmission Provider may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Transmission Provider, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally-recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Transmission Provider for the tax at issue in the contest.

5.17.8 **Refund.** In the event that (a) a private letter ruling is issued to Transmission Provider which holds that any amount paid or the value of any property transferred by Interconnection Customer to

Transmission Provider under the terms of this LGIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Transmission Provider in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Provider under the terms of this LGIA is not taxable to Transmission Provider, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Transmission Provider are not subject to federal income tax, or (d) if Transmission Provider receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Transmission Provider pursuant to this LGIA, Transmission Provider shall promptly refund to Interconnection Customer the following:

(i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,

(ii) interest on any amounts paid by Interconnection Customer to Transmission Provider for such taxes which Transmission Provider did not submit to the taxing authority, calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR §35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Transmission Provider refunds such payment to Interconnection Customer, and

(iii) with respect to any such taxes paid by Transmission Provider, any refund or credit Transmission Provider receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to Transmission

Provider for such overpayment of taxes (including any reduction in interest otherwise payable by Transmission Provider to any Governmental Authority resulting from an offset or credit); provided, however, that Transmission Provider will remit such amount promptly to Interconnection Customer only after and to the extent that Transmission Provider has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to Transmission Provider's Interconnection Facilities.

The intent of this provision is to leave the Parties, to the extent practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

5.17.9 Taxes Other Than Income Taxes. Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Transmission Provider may appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Provider for which Interconnection Customer may be required to reimburse Transmission Provider under the terms of this LGIA. Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Transmission Provider shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Transmission Provider for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal,

Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Provider.

5.17.10 Transmission Owners Who Are Not Transmission Providers. If Transmission Provider is not the same entity as the Transmission Owner, then (i) all references in this Article 5.17 to Transmission Provider shall be deemed also to refer to and to include the Transmission Owner, as appropriate, and (ii) this LGIA shall not become effective until such Transmission Owner shall have agreed in writing to assume all of the duties and obligations of Transmission Provider under this Article 5.17 of this LGIA.

5.18 Tax Status. Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this LGIA is intended to adversely affect any Transmission Provider's tax exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

5.19 Modification.

5.19.1 General. Either Party may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, that Party shall provide to the other Party sufficient information regarding such modification so that the other Party may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be confidential hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Large Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period

upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Large Generating Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Transmission Provider shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Transmission System, Transmission Provider's Interconnection Facilities or Network Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

5.19.2 **Standards.** Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed and operated in accordance with this LGIA and Good Utility Practice.

5.19.3 **Modification Costs.** Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Transmission Provider makes to Transmission Provider's Interconnection Facilities or the Transmission System to facilitate the interconnection of a third party to Transmission Provider's Interconnection Facilities or the Transmission System, or to provide transmission service to a third party under Transmission Provider's Tariff. Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

Article 6. Testing and Inspection

6.1 Pre-Commercial Operation Date Testing and Modifications. Prior to the Commercial Operation Date, Transmission Provider shall test Transmission Provider's Interconnection Facilities and Network Upgrades and Interconnection Customer shall test the Large Generating Facility and Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Large Generating Facility only if it has arranged for the delivery of such test energy.

6.2 Post-Commercial Operation Date Testing and Modifications. Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Large Generating Facility with the Transmission System in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.

6.3 Right to Observe Testing. Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities. The other Party has the right, at its own expense, to observe such testing.

6.4 Right to Inspect. Each Party shall have the right, but shall have no obligation to: (i) observe the other Party's tests and/or inspection of any of its System Protection Facilities and other protective equipment, including Power System Stabilizers; (ii) review the settings of the other Party's System Protection Facilities and other protective equipment; and (iii) review the other Party's maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Party. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the

System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this LGIA.

Article 7. Metering

7.1 General. Each Party shall comply with the Electric Reliability Organization requirements. Unless otherwise agreed by the Parties, Transmission Provider shall install Metering Equipment at the Point of Interconnection prior to any operation of the Large Generating Facility and shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Large Generating Facility shall be measured at or, at Transmission Provider's option, compensated to, the Point of Interconnection. Transmission Provider shall provide metering quantities, in analog and/or digital form, to Interconnection Customer upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

7.2 Check Meters. Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check Transmission Provider's meters. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this LGIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Provider or its designee. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.

7.3 Standards. Transmission Provider shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards.

7.4 Testing of Metering Equipment. Transmission Provider shall inspect and test all Transmission Provider-owned Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by Interconnection Customer, Transmission Provider shall, at Interconnection Customer's expense, inspect or test Metering Equipment more frequently than every two (2) years. Transmission Provider shall give reasonable notice of the time when any inspection or test shall take place, and Interconnection Customer may have representatives present at the test or inspection. If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to Transmission Provider's failure to maintain, then Transmission Provider shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent from the measurement made by the standard meter used in the test, Transmission Provider shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using Interconnection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last previous test of the Metering Equipment.

7.5 Metering Data. At Interconnection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Provider and one or more locations designated by Interconnection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Large Generating Facility to the Point of Interconnection.

Article 8. Communications

8.1 Interconnection Customer Obligations. Interconnection Customer shall maintain satisfactory operating communications with Transmission Provider's Transmission System dispatcher or representative designated by Transmission

Provider. Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Large Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Interconnection Customer shall also provide the dedicated data circuit(s) necessary to provide Interconnection Customer data to Transmission Provider as set forth in Appendix D, Security Arrangements Details. The data circuit(s) shall extend from the Large Generating Facility to the location(s) specified by Transmission Provider. Any required maintenance of such communications equipment shall be performed by Interconnection Customer. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data.

8.2 Remote Terminal Unit. Prior to the Initial Synchronization Date of the Large Generating Facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the Parties, shall be installed by Interconnection Customer, or by Transmission Provider at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by Transmission Provider through use of a dedicated point-to-point data circuit(s) as indicated in Article 8.1. The communication protocol for the data circuit(s) shall be specified by Transmission Provider. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by Transmission Provider.

Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

8.3 No Annexation. Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

8.4 Provision of Data from a Variable Energy Resource. **[**The] Interconnection Customer whose Generating Facility contains at least one Variable Energy Resource shall provide meteorological and forced outage data to [the] Transmission Provider to the extent necessary for [the] Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources. [The] Interconnection Customer with a Variable Energy Resource having wind as the energy source, at a minimum, will be required to provide [the] Transmission Provider with site-specific meteorological data including: temperature, wind speed, wind direction, and atmospheric pressure. [The] Interconnection Customer with a Variable Energy Resource having solar as the energy source, at a minimum, will be required to provide [the] Transmission Provider with site-specific meteorological data including: temperature, atmospheric pressure, and irradiance. [The] Transmission Provider and Interconnection Customer whose Generating Facility contains a Variable Energy Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. [The] Interconnection Customer whose Generating Facility contains a Variable Energy Resource also shall submit data to [the] Transmission Provider regarding all forced outages to the extent necessary for [the] Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources. The exact specifications of the meteorological and forced outage data to be provided by [the] Interconnection Customer to [the] Transmission Provider, including the frequency and timing of data submittals, shall be made taking into account the size and configuration of the Variable Energy Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by [the] Transmission Provider. Such requirements for meteorological and forced outage data are set forth in Appendix C, Interconnection Details, of this LGIA, as they may change from time to time.

Article 9. Operations

9.1 General. Each Party shall comply with the Electric Reliability Organization requirements. Each Party shall provide to the other Party all information that may reasonably be required by the other Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.

9.2 Balancing Authority Area Notification. At least three months before Initial Synchronization Date, Interconnection Customer shall notify Transmission Provider in writing of the Balancing Authority Area in which the Large Generating Facility will be located. If Interconnection Customer elects to locate the Large Generating Facility in a Balancing Authority Area other than the Balancing Authority Area in which the Large Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this LGIA, and remote Balancing Authority Area generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented prior to the placement of the Large Generating Facility in the other Balancing Authority Area.

9.3 Transmission Provider Obligations. Transmission Provider shall cause the Transmission System and Transmission Provider's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this LGIA. Transmission Provider may provide operating instructions to Interconnection Customer consistent with this LGIA and Transmission Provider's operating protocols and procedures as they may change from time to time. Transmission Provider will consider changes to its operating protocols and procedures proposed by Interconnection Customer.

9.4 Interconnection Customer Obligations. Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA. Interconnection Customer shall operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of the Balancing Authority Area of which it is part, as such requirements are set forth in

Appendix C, Interconnection Details, of this LGIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Either Party may request that the other Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this LGIA.

9.5 Start-Up and Synchronization. Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Large Generating Facility to Transmission Provider's Transmission System.

9.6 Reactive Power and Primary Frequency Response.

9.6.1 Power Factor Design Criteria.

9.6.1.1 Synchronous Generation. Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless Transmission Provider has established different requirements that apply to all synchronous generators in the Balancing Authority Area on a comparable basis.

9.6.1.2 Non-Synchronous Generation. Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless Transmission Provider has established a different power factor range that applies to all non-synchronous generators in the Balancing Authority Area on a comparable basis. This

power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting non-synchronous generators that have not yet executed a Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).

9.6.2 Voltage Schedules. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Transmission Provider shall require Interconnection Customer to operate the Large Generating Facility to produce or absorb reactive power within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). Transmission Provider's voltage schedules shall treat all sources of reactive power in the Balancing Authority Area in an equitable and not unduly discriminatory manner. Transmission Provider shall exercise Reasonable Efforts to provide Interconnection Customer with such schedules at least one (1) day in advance, and may make changes to such schedules as necessary to maintain the reliability of the Transmission System. Interconnection Customer shall operate the Large Generating Facility to maintain the specified output voltage or power factor at the Point of Interconnection within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). If Interconnection Customer is unable to maintain the specified voltage or power factor, it shall promptly notify the System Operator.

9.6.2.1 Voltage Regulators. Whenever the Large Generating Facility is operated in parallel with the Transmission System and voltage regulators are capable of operation, Interconnection Customer shall operate the Large Generating Facility with its voltage regulators in automatic operation. If the Large Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection

Customer shall immediately notify Transmission Provider's system operator, or its designated representative, and ensure that such Large Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Large Generating Facility's generating unit(s) and steady state stability limits. Interconnection Customer shall not cause its Large Generating Facility to disconnect automatically or instantaneously from the Transmission System or trip any generating unit comprising the Large Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Balancing Authority Area on a comparable basis.

9.6.3 Payment for Reactive Power. Transmission Provider is required to pay Interconnection Customer for reactive power that Interconnection Customer provides or absorbs from the Large Generating Facility when Transmission Provider requests Interconnection Customer to operate its Large Generating Facility outside the range specified in Article 9.6.1, provided that if Transmission Provider pays its own or affiliated generators for reactive power service within the specified range, it must also pay Interconnection Customer. Payments shall be pursuant to Article 11.6 or such other agreement to which the Parties have otherwise agreed.

9.6.4 Primary Frequency Response. Interconnection Customer shall ensure the primary frequency response capability of its Large Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term "functioning governor or equivalent controls" as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Large Generating Facility's real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations.

Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ±0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved Electric Reliability Organization reliability standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Large Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based an approved Electric Reliability Organization reliability standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Large Generating Facility's real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Large Generating Facility's real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved Electric Reliability Organization reliability standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Provider that the primary frequency response capability of the Large Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission system, Interconnection Customer shall operate the Large Generating Facility consistent with the provisions specified in [Sections] *articles* 9.6.4.1 and 9.6.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Large Generating Facilities.

9.6.4.1 Governor or Equivalent Controls. Whenever the Large Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Large Generating Facility with its governor or equivalent

controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with Transmission Provider and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ±0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved Electric Reliability Organization reliability standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Large Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Provider and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Large Generating Facility's governor or equivalent controls to a minimum whenever the Large Generating Facility is operated in parallel with the Transmission System.

9.6.4.2 **Timely and Sustained Response.** Interconnection Customer shall ensure that the Large Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Large Generating Facility has operating

capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Large Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved reliability standard with equivalent or more stringent requirements shall supersede the above requirements.

9.6.4.3 **Exemptions.** Large Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from [Sections]*articles* 9.6.4, 9.6.4.1, and 9.6.4.2 of this Agreement. Large Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in [Section]*article* 9.6.4, but shall be otherwise exempt from the operating requirements in [Sections]*articles* 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this Agreement.

9.6.4.4[.] **Electric Storage Resources.** Interconnection Customer interconnecting a Generating Facility that contains an electric storage resource shall establish an operating range in Appendix C of its LGIA that specifies a minimum state of

charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in [Sections] *articles* 9.6.4, 9.6.4.1, 9.6.4.2 and 9.6.4.3 of this Agreement. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Provider and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with [Section]*article* 9.6.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Interconnection

Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change

from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

9.7 Outages and Interruptions.

9.7.1 Outages.

9.7.1.1 Outage Authority and Coordination. Each Party may in accordance with Good Utility Practice in coordination with the other Party remove from service any of its respective Interconnection Facilities or Network Upgrades that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent an Emergency Condition, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to schedule such removal on a date and time mutually acceptable to the Parties. In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Party of such removal.

9.7.1.2 Outage Schedules. Transmission Provider shall post scheduled outages of its transmission facilities on the OASIS. Interconnection Customer shall submit its planned maintenance schedules for the Large Generating Facility to Transmission Provider for a minimum of a rolling twenty-four month period. Interconnection Customer shall update its planned maintenance schedules as necessary. Transmission Provider may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Transmission System; provided, however, adequacy of

generation supply shall not be a criterion in determining Transmission System reliability. Transmission Provider shall compensate Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would have incurred absent Transmission Provider's request to reschedule maintenance. Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance activities.

9.7.1.3 Outage Restoration. If an outage on a Party's Interconnection Facilities or Network Upgrades adversely affects the other Party's operations or facilities, the Party that owns or controls the facility that is out of service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. The Party that owns or controls the facility that is out of service shall provide the other Party, to the extent such information is known, information on the nature of the Emergency Condition, an estimated time of restoration, and any corrective actions required. Initial verbal notice shall be followed up as soon as practicable with written notice explaining the nature of the outage.

9.7.2 Interruption of Service. If required by Good Utility Practice to do so, Transmission Provider may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Transmission Provider's ability to perform such activities as are necessary to safely and reliably operate and maintain the Transmission System. The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2:

9.7.2.1 The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

9.7.2.2 Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Transmission System;

9.7.2.3 When the interruption or reduction must be made under circumstances which do not allow for advance notice, Transmission Provider shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. Telephone notification shall be followed by written notification as soon as practicable;

9.7.2.4 Except during the existence of an Emergency Condition, when the interruption or reduction can be scheduled without advance notice, Transmission Provider shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify Interconnection Customer of the expected duration. Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the interruption or reduction during periods of least impact to Interconnection Customer and Transmission Provider;

9.7.2.5 The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Large Generating Facility, Interconnection Facilities, and the Transmission System to their normal operating state, consistent with system conditions and Good Utility Practice.

9.7.3 Ride Through Capability and Performance. The Transmission System is designed to automatically activate a load-shed program as required by the Electric Reliability Organization in the event of an under-frequency system disturbance. Interconnection Customer shall implement under-frequency and over-frequency relay set points for the Large Generating Facility as required by the Electric Reliability Organization to ensure frequency "ride through" capability of the Transmission System. Large Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with Transmission Provider in accordance with Good Utility Practice. Interconnection Customer shall also implement under-voltage and over-voltage relay set points, or equivalent electronic controls, as required by the Electric Reliability Organization to ensure voltage "ride through" capability of the Transmission System. The term "ride through" as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of under-frequency, over-frequency, under-voltage, and over-voltage conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the Balancing Authority Area on a comparable basis. For abnormal frequency conditions and voltage conditions within the "no trip zone" defined by Reliability Standard PRC-024-3 or successor mandatory ride through reliability standards, the non-synchronous Large Generating Facility must ensure that, within any physical limitations of the Large Generating Facility, its control and protection settings are configured or set to (1) continue active power production during disturbance and post disturbance periods at pre-disturbance levels, *unless reactive power priority mode is enabled or* unless providing primary frequency response or fast frequency response; (2) minimize reductions in active power and remain within dynamic voltage and current limits, if reactive power priority mode is enabled, unless providing primary frequency response or fast frequency response; (3) not artificially limit dynamic reactive power capability during disturbances; and (4) return to pre-disturbance active power levels without artificial ramp rate limits if active power is reduced, unless providing primary frequency response or fast frequency response.

9.7.4 System Protection and Other Control Requirements.

9.7.4.1 **System Protection Facilities.** Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Provider shall install at Interconnection Customer's expense any System Protection Facilities that may be required on Transmission Provider's Interconnection Facilities or the Transmission System as a result of the interconnection of the Large Generating Facility and Interconnection Customer's Interconnection Facilities.

9.7.4.2 Each Party's protection facilities shall be designed and coordinated with other systems in accordance with Good Utility Practice.

9.7.4.3 Each Party shall be responsible for protection of its facilities consistent with Good Utility Practice.

9.7.4.4 Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of Interconnection Customer's units.

9.7.4.5 Each Party will test, operate and maintain System Protection Facilities in accordance with Good Utility Practice.

9.7.4.6 Prior to the In-Service Date, and again prior to the Commercial Operation Date, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, each Party shall perform both calibration and functional trip tests of its System Protection Facilities. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated.

9.7.5 Requirements for Protection. In compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Large Generating Facility to any short circuit occurring on the Transmission System not otherwise isolated by Transmission Provider's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the Transmission System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Large Generating Facility and the Transmission System at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Large Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Large Generating Facility and Interconnection Customer's other equipment if conditions on the Transmission System could adversely affect the Large Generating Facility.

9.7.6 Power Quality. Neither Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric industry standard, ANSI Standard C84.1-1989, or the applicable superseding electric industry standard, shall control.

9.8 Switching and Tagging Rules. Each Party shall provide the other Party a copy of its switching and tagging rules that are applicable to the other Party's activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

9.9 Use of Interconnection Facilities by Third Parties.

9.9.1 Purpose of Interconnection Facilities. Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Large Generating Facility to the Transmission System and shall be used for no other purpose.

9.9.2 Third Party Users. If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use Transmission Provider's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Transmission Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology.

In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Transmission Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to FERC for resolution.

9.10 Disturbance Analysis Data Exchange. The Parties will cooperate with one another in the analysis of disturbances to either the Large Generating Facility or Transmission Provider's Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice.

Article 10. Maintenance

10.1 Transmission Provider Obligations. Transmission Provider shall maintain the Transmission System and Transmission Provider's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.2 Interconnection Customer Obligations. Interconnection Customer shall maintain the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.3 Coordination. The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Large Generating Facility and the Interconnection Facilities.

10.4 Secondary Systems. Each Party shall cooperate with the other in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Party. Each Party shall provide advance notice to the other Party before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

10.5 Operating and Maintenance Expenses. Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Transmission Provider's Interconnection Facilities.

Article 11. Performance Obligation

11.1 Interconnection Customer Interconnection Facilities. Interconnection Customer shall design, procure, construct, install, own and/or control Interconnection Customer Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at its sole expense.

11.2 Transmission Provider's Interconnection Facilities. Transmission Provider or Transmission Owner shall design, procure, construct, install, own and/or control

[the] Transmission Provider's Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at the sole expense of [the] Interconnection Customer.

11.3 Network Upgrades and Distribution Upgrades. Transmission Provider or Transmission Owner shall design, procure, construct, install, and own the Network Upgrades and Distribution Upgrades described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades. Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Unless Transmission Provider or Transmission Owner elects to fund the capital for the Network Upgrades, they shall be solely funded by Interconnection Customer.

11.4 Transmission Credits.

11.4.1 Repayment of Amounts Advanced for Network Upgrades. Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to Transmission Provider and Affected System Operator, if any, for the Network Upgrades, including any tax gross-up or other tax-related payments associated with Network Upgrades, and not refunded to Interconnection Customer pursuant to Article 5.17.8 or otherwise, to be paid to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under Transmission Provider's Tariff and Affected System's Tariff for transmission services with respect to the Large Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 C.F.R. § 35.19a(a)(2)(iii) from the date of any payment for Network Upgrades through the date on which [the] Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. Interconnection Customer may assign such repayment rights to any person.

Notwithstanding the foregoing, Interconnection Customer, Transmission Provider, and Affected System Operator may adopt any alternative payment schedule that is mutually agreeable so long as Transmission Provider and Affected System Operator take one of the following actions no later than five years from the Commercial Operation Date: (1) return to Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that Transmission Provider or Affected System Operator will continue to provide payments to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the Commercial Operation Date.

If the Large Generating Facility fails to achieve commercial operation, but it or another Generating Facility is later constructed and makes use of the Network Upgrades, Transmission Provider and Affected System Operator shall at that time reimburse Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, [the] Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which reimbursement must be made.

11.4.2 **Special Provisions for Affected Systems.** Unless Transmission Provider provides, under the LGIA, for the repayment of amounts advanced to Affected System Operator for Network Upgrades, Interconnection Customer and Affected System Operator shall enter into an agreement that provides for such repayment. The agreement shall specify the terms governing payments to be made by Interconnection Customer to the Affected System Operator as well as the repayment by the Affected System Operator.

11.4.3 Notwithstanding any other provision of this LGIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that Interconnection Customer, shall be entitled to, now or in the future under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Large Generating Facility.

11.5 Provision of Security. At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of a Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades, Interconnection Customer shall provide Transmission Provider, at Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Provider and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1. Such security for payment, as specified in Appendix B of this LGIA, shall be in an amount sufficient to cover the costs for constructing, procuring and installing the applicable portion of Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Provider for these purposes. Transmission Provider must use the LGIA Deposit required in Section 11.3 of the LGIP before requiring Interconnection Customer to submit security in addition to that LGIA Deposit. Transmission Provider must specify, in Appendix B of this LGIA, the dates for which Interconnection Customer must provide additional security for construction of each discrete portion of Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades and Interconnection Customer must provide such additional security.

In addition:

11.5.1 The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Provider, and contain terms and conditions that guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.

11.5.2 The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

11.5.3 The surety bond must be issued by an insurer reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

11.6 Interconnection Customer Compensation. If Transmission Provider requests or directs Interconnection Customer to provide a service pursuant to Articles 9.6.3 (Payment for Reactive Power), or 13.5.1 of this LGIA, Transmission Provider shall compensate Interconnection Customer in accordance with Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to an RTO or ISO FERC-approved rate schedule. Interconnection Customer shall serve Transmission Provider or RTO or ISO with any filing of a proposed rate schedule at the time of such filing with FERC. To the extent that no rate schedule is in effect at the time [the] Interconnection Customer is required to provide or absorb any Reactive Power under this LGIA, Transmission Provider agrees to compensate Interconnection Customer in such amount as would have been due Interconnection Customer had the rate schedule been in effect at the time service commenced; provided, however, that such rate schedule must be filed at FERC or other appropriate Governmental Authority within sixty (60) Calendar Days of the commencement of service.

11.6.1 Interconnection Customer Compensation for Actions During Emergency Condition. Transmission Provider or RTO or ISO shall

compensate Interconnection Customer for its provision of real and reactive power and other Emergency Condition services that Interconnection Customer provides to support the Transmission System during an Emergency Condition in accordance with Article 11.6.

Article 12. Invoice

12.1 General. Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this LGIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

12.2 Final Invoice. Within six months after completion of the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades, Transmission Provider shall provide an invoice of the final cost of the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Provider shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

12.3 Payment. Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and

account designated by the invoicing Party. Payment of invoices by either Party will not constitute a waiver of any rights or claims either Party may have under this LGIA.

12.4 Disputes. In the event of a billing dispute between Transmission Provider and Interconnection Customer, Transmission Provider shall continue to provide Interconnection Service under this LGIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Transmission Provider or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Provider may provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated in accord with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii).

Article 13. Emergencies

13.1 Definition. "Emergency Condition" shall mean a condition or situation: (i) that in

the judgment of the Party making the claim is imminently likely to endanger life or property; or (ii) that, in the case of Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Provider's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (iii) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to**,** the Large Generating Facility or Interconnection Customer's Interconnection Facilities' System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by this LGIA to possess black start capability.

13.2 Obligations. Each Party shall comply with the Emergency Condition procedures of the applicable ISO/RTO, the Electric Reliability Organization, Applicable Laws and Regulations, and any emergency procedures agreed to by the Joint Operating Committee.

13.3 Notice. Transmission Provider shall notify Interconnection Customer promptly when it becomes aware of an Emergency Condition that affects Transmission Provider's Interconnection Facilities or the Transmission System that may reasonably be expected to affect Interconnection Customer's operation of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Interconnection Customer shall notify Transmission Provider promptly when it becomes aware of an Emergency Condition that affects the Large Generating Facility or Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the Transmission System or Transmission Provider's Interconnection Facilities. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Transmission Provider's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.

13.4 Immediate Action. Unless, in Interconnection Customer's reasonable judgment, immediate action is required, Interconnection Customer shall obtain the consent of Transmission Provider, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Large Generating Facility or Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by Transmission Provider or otherwise regarding the Transmission System.

13.5 Transmission Provider Authority.

13.5.1 General. Transmission Provider may take whatever actions or inactions with regard to the Transmission System or Transmission Provider's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Transmission System or Transmission Provider's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service.

Transmission Provider shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Provider may, on the basis of technical considerations, require the Large Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Large Generating Facility; implementing a reduction or disconnection pursuant to Article 13.5.2; directing Interconnection Customer to assist with blackstart (if available) or restoration efforts; or altering the outage schedules of the Large Generating Facility and Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of Transmission Provider's operating instructions concerning Large Generating Facility real power and reactive power output within the manufacturer's design limitations of the Large Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

13.5.2 Reduction and Disconnection. Transmission Provider may reduce Interconnection Service or disconnect the Large Generating Facility or Interconnection Customer's Interconnection Facilities, when such, reduction or disconnection is necessary under Good Utility Practice due to Emergency Conditions. These rights are separate and distinct from any right of curtailment of Transmission Provider pursuant to

Transmission Provider's Tariff. When Transmission Provider can schedule the reduction or disconnection in advance, Transmission Provider shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the reduction or disconnection during periods of least impact to Interconnection Customer and Transmission Provider. Any reduction or disconnection shall continue only for so long as reasonably necessary under Good Utility Practice. The Parties shall cooperate with each other to restore the Large Generating Facility, the Interconnection Facilities, and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

13.6 Interconnection Customer Authority. Consistent with Good Utility Practice and the LGIA and the LGIP, Interconnection Customer may take actions or inactions with regard to the Large Generating Facility or Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Large Generating Facility or Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Transmission System and Transmission Provider's Interconnection Facilities. Transmission Provider shall use Reasonable Efforts to assist Interconnection Customer in such actions.

13.7 Limited Liability. Except as otherwise provided in Article 11.6.1 of this LGIA, neither Party shall be liable to the other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and is consistent with Good Utility Practice.

Article 14. Regulatory Requirements and Governing Law

14.1 Regulatory Requirements. Each Party's obligations under this LGIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this LGIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978.

14.2 Governing Law.

14.2.1 The validity, interpretation and performance of this LGIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.

14.2.2 This LGIA is subject to all Applicable Laws and Regulations.

14.2.3 Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

Article 15. Notices.

15.1 General. Unless otherwise provided in this LGIA, any notice, demand or request required or permitted to be given by either Party to the other and any instrument required or permitted to be tendered or delivered by either Party in writing to the other shall be effective when delivered and may be so given, tendered or

delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for Delivery of Notices and Billings.

Either Party may change the notice information in this LGIA by giving five (5) Business Days written notice prior to the effective date of the change.

15.2 Billings and Payments. Billings and payments shall be sent to the addresses set out in Appendix F.

15.3 Alternative Forms of Notice. Any notice or request required or permitted to be given by a Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

15.4 Operations and Maintenance Notice. Each Party shall notify the other Party in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

Article 16. Force Majeure

16.1 Force Majeure.

16.1.1 Economic hardship is not considered a Force Majeure event.

16.1.2 Neither Party shall be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill

any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

Article 17. Default

17.1 Default

17.1.1 **General**. No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this LGIA or the result of an act of omission of the other Party. Upon a Breach, the non-breaching Party shall give written notice of such Breach to the breaching Party. Except as provided in Article 17.1.2, the breaching Party shall have thirty (30) Calendar Days from receipt of the Default notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Default notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

17.1.2 Right to Terminate. If a Breach is not cured as provided in this article, or if a Breach is not capable of being cured within the period provided for herein, the non-breaching Party shall have the right to declare a Default and terminate this LGIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this LGIA, to recover from the breaching Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this LGIA.

17.2 Violation of Operating Assumptions for Generating Facilities. If Transmission Provider requires Interconnection Customer to memorialize the operating assumptions for the charging behavior of a Generating Facility that includes at least one electric storage resource in Appendix H of this LGIA, Transmission Provider may consider Interconnection Customer to be in Breach of the LGIA if Interconnection Customer fails to operate the Generating Facility in accordance with those operating assumptions for charging behavior. However, if Interconnection Customer operates contrary to the operating assumptions for charging behavior specified in Appendix H of this LGIA at the direction of Transmission Provider, Transmission Provider shall not consider Interconnection Customer in Breach of this LGIA.

Article 18. Indemnity, Consequential Damages and Insurance

18.1 Indemnity. The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this LGIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

18.1.1 **Indemnified Person.** If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

18.1.2 **Indemnifying Party.** If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

18.1.3 **Indemnity Procedures.** Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply, the Indemnified Person shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on

its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

18.2 Consequential Damages. Other than the Liquidated Damages heretofore described, in no event shall either Party be liable under any provision of this LGIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

18.3 Insurance. Each party shall, at its own expense, maintain in force throughout the period of this LGIA, and until released by the other Party, the following minimum

insurance coverages, with insurers authorized to do business in the state where the Point of Interconnection is located:

18.3.1 Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

18.3.2 Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars ($1,000,000) per occurrence/One Million Dollars ($1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.

18.3.3 Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars ($1,000,000) per occurrence for bodily injury, including death, and property damage.

18.3.4 Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars ($20,000,000) per occurrence/Twenty Million Dollars ($20,000,000) aggregate.

18.3.5 The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this LGIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.

18.3.6 The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.

18.3.7 The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this LGIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.

18.3.8 The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this LGIA.

18.3.9 Within ten (10) *Business* [d]*D*ays following execution of this LGIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) *Calendar* [d]*D*ays thereafter, each Party shall provide certification of all insurance required in this LGIA, executed by each insurer or by an authorized representative of each insurer.

18.3.10 Notwithstanding the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program; provided that, such Party's senior secured debt is rated at investment grade or better by Standard & Poor's and that its self-insurance program meets the minimum insurance requirements of Articles 18.3.2 through 18.3.8. For any period of time that a Party's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.3.2 through 18.3.9. In the event that a Party is permitted to self-insure pursuant to this article, it shall notify the other Party that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.

18.3.11 The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this LGIA.

Article 19. Assignment

19.1 Assignment. This LGIA may be assigned by either Party only with the written consent of the other; provided that either Party may assign this LGIA without the consent of the other Party to any Affiliate of the assigning Party with an equal or

greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this LGIA; and provided further that Interconnection Customer shall have the right to assign this LGIA, without the consent of Transmission Provider, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that Interconnection Customer will promptly notify Transmission Provider of any such assignment. Any financing arrangement entered into by Interconnection Customer pursuant to this article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Provider of the date and particulars of any such exercise of assignment right(s), including providing [the] Transmission Provider with proof that it meets the requirements of Articles 11.5 and 18.3. Any attempted assignment that violates this article is void and ineffective. Any assignment under this LGIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

Article 20. Severability

20.1 Severability. If any provision in this LGIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this LGIA; provided that if Interconnection Customer (or any third party, but only if such third party is not acting at the direction of Transmission Provider) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1).

Article 21. Comparability

21.1 Comparability. The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

Article 22. Confidentiality

22.1 Confidentiality. Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of this LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by either Party, the other Party shall provide in writing, the basis for asserting that the information referred to in this Article 22 warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

22.1.1 Term. During the term of this LGIA, and for a period of three (3) years after the expiration or termination of this LGIA, except as otherwise provided in this Article 22, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

22.1.2 Scope. Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the

public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this LGIA; or (6) is required, in accordance with Article 22.1.7 of the LGIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

22.1.3 **Release of Confidential Information.** Neither Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this LGIA, unless such person has first been advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

22.1.4 **Rights.** Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party.

The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

22.1.5 **No Warranties.** By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

22.1.6 **Standard of Care.** Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this LGIA or its regulatory requirements.

22.1.7 **Order of Disclosure.** If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

22.1.8 **Termination of Agreement.** Upon termination of this LGIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the other Party) or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party.

22.1.9 **Remedies.** The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Article 22. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 22.

22.1.10 **Disclosure to FERC, its Staff, or a State.** Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this LGIA, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR section 388.112,

request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party to this LGIA prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

22.1.11 Subject to the exception in Article 22.1.10, any information that a Party claims is competitively sensitive, commercial or financial information under this LGIA ("Confidential Information") shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this LGIA or as a transmission service provider or a Balancing Authority Area operator including disclosing the Confidential Information to an RTO or ISO or to a regional or national reliability organization. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public

disclosure by confidentiality agreement, protective order or other reasonable measures.

Article 23. Environmental Releases

23.1 Each Party shall notify the other Party, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Party copies of any publicly available reports filed with any Governmental Authorities addressing such events.

Article 24. Information Requirements

24.1 Information Acquisition. Transmission Provider and Interconnection Customer shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

24.2 Information Submission by Transmission Provider. The initial information submission by Transmission Provider shall occur no later than one hundred eighty (180) Calendar Days prior to Trial Operation and shall include Transmission System information necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise agreed to by the Parties. On a monthly basis Transmission Provider shall provide Interconnection Customer a status report on the construction and installation of Transmission Provider's Interconnection Facilities and Network Upgrades, including, but not limited to, the following information: (1) progress to

date; (2) a description of the activities since the last report (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

24.3 Updated Information Submission by Interconnection Customer. The updated information submission by Interconnection Customer, including manufacturer information, shall occur no later than one hundred eighty (180) Calendar Days prior to the Trial Operation. Interconnection Customer shall submit a completed copy of the Large Generating Facility data requirements contained in Appendix 1 to the LGIP. It shall also include any additional information provided to Transmission Provider for the Cluster Study and Facilities Study. Information in this submission shall be the most current Large Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Transmission Provider standard models. If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information.

If Interconnection Customer's data is materially different from what was originally provided to Transmission Provider pursuant to the Interconnection Study Agreement between Transmission Provider and Interconnection Customer, then Transmission Provider will conduct appropriate studies to determine the impact on Transmission Provider Transmission System based on the actual data submitted pursuant to this Article 24.3. Interconnection Customer shall not begin Trial Operation until such studies are completed.

24.4 Information Supplementation. Prior to the Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Large Generating Facility information or "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. [The] Interconnection Customer shall conduct tests on the Large Generating Facility as required by Good Utility Practice such as an open circuit "step voltage" test on the Large Generating Facility to verify proper operation of the Large Generating Facility's automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Large Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent change in Large Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Large Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Large Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Large Generating Facility terminal or field voltages is provided. Large Generating Facility testing shall be conducted and results provided to Transmission Provider for each individual generating unit in a station.

Subsequent to the Operation Date, Interconnection Customer shall provide Transmission Provider any information changes due to equipment replacement, repair, or adjustment. Transmission Provider shall provide Interconnection Customer any information changes due to equipment replacement, repair or adjustment in the directly connected substation or any adjacent Transmission Provider-owned substation that may affect Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.

Article 25. Information Access and Audit Rights

25.1 Information Access. Each Party (the "disclosing Party") shall make available to the other Party information that is in the possession of the disclosing Party and is necessary in order for the other Party to: (i) verify the costs incurred by the disclosing Party for which the other Party is responsible under this LGIA; and

(ii) carry out its obligations and responsibilities under this LGIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this LGIA.

25.2 Reporting of Non-Force Majeure Events. Each Party (the "notifying Party") shall notify the other Party when the notifying Party becomes aware of its inability to comply with the provisions of this LGIA for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this article shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this LGIA.

25.3 Audit Rights. Subject to the requirements of confidentiality under Article 22 of this LGIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party, to audit at its own expense the other Party's accounts and records pertaining to either Party's performance or either Party's satisfaction of obligations under this LGIA. Such audit rights shall include audits of the other Party's costs, calculation of invoiced amounts, Transmission Provider's efforts to allocate responsibility for the provision of reactive support to the Transmission System, Transmission Provider's efforts to allocate responsibility for interruption or reduction of generation on the Transmission System, and each Party's actions in an Emergency Condition. Any audit authorized by this article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this LGIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

25.4 Audit Rights Periods.

25.4.1 Audit Rights Period for Construction-Related Accounts and Records. Accounts and records related to the design, engineering, procurement, and construction of Transmission Provider's Interconnection Facilities and Network Upgrades shall be subject to audit for a period of twenty-four months following Transmission

Provider's issuance of a final invoice in accordance with Article 12.2.

25.4.2 Audit Rights Period for All Other Accounts and Records. Accounts and records related to either Party's performance or satisfaction of all obligations under this LGIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four months after the event for which the audit is sought.

25.5 Audit Results. If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party together with those records from the audit which support such determination.

Article 26. Subcontractors

26.1 General. Nothing in this LGIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this LGIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this LGIA in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

26.2 Responsibility of Principal. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this LGIA. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Transmission Provider be liable for the actions or

inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this LGIA. Any applicable obligation imposed by this LGIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

26.3 No Limitation by Insurance. The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

Article 27. Disputes

27.1 Submission. In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with this LGIA or its performance, such Party (the "disputing Party") shall provide the other Party with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

27.2 External Arbitration Procedures. Any arbitration initiated under this LGIA shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric

utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article 27, the terms of this Article 27 shall prevail.

27.3 Arbitration Decisions. Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of this LGIA and shall have no power to modify or change any provision of this Agreement in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

27.4 Costs. Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or (2) one half the cost of the single arbitrator jointly chosen by the Parties.

Article 28. Representations, Warranties, and Covenants

28.1 General. Each Party makes the following representations, warranties and covenants:

28.1.1 Good Standing. Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Large Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located**;** and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this LGIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this LGIA.

28.1.2 Authority. Such Party has the right, power and authority to enter into this LGIA, to become a Party hereto and to perform its obligations hereunder. This LGIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

28.1.3 No Conflict. The execution, delivery and performance of this LGIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

28.1.4 **Consent and Approval.** Such Party has sought or obtained, or, in accordance with this LGIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this LGIA, and it will provide to any Governmental Authority notice of any actions under this LGIA that are required by Applicable Laws and Regulations.

Article 29. Joint Operating Committee

29.1 Joint Operating Committee. Except in the case of ISOs and RTOs, Transmission Provider shall constitute a Joint Operating Committee to coordinate operating and technical considerations of Interconnection Service. At least six (6) months prior to the expected Initial Synchronization Date, Interconnection Customer and Transmission Provider shall each appoint one representative and one alternate to the Joint Operating Committee. Each Interconnection Customer shall notify Transmission Provider of its appointment in writing. Such appointments may be changed at any time by similar notice. The Joint Operating Committee shall meet as necessary, but not less than once each calendar year, to carry out the duties set forth herein. The Joint Operating Committee shall hold a meeting at the request of either Party, at a time and place agreed upon by the representatives. The Joint Operating Committee shall perform all of its duties consistent with the provisions of this LGIA. Each Party shall cooperate in providing to the Joint Operating Committee all information required in the performance of the Joint Operating Committee's duties. All decisions and agreements, if any, made by the Joint Operating Committee, shall be evidenced in writing. The duties of the Joint Operating Committee shall include the following:

29.1.1 Establish data requirements and operating record requirements.

29.1.2 Review the requirements, standards, and procedures for data acquisition equipment, protective equipment, and any other equipment or software.

29.1.3 Annually review the one (1) year forecast of maintenance and planned outage schedules of Transmission Provider's and Interconnection Customer's facilities at the Point of Interconnection.

29.1.4 Coordinate the scheduling of maintenance and planned outages on the Interconnection Facilities, the Large Generating Facility and other facilities that impact the normal operation of the interconnection of the Large Generating Facility to the Transmission System.

29.1.5 Ensure that information is being provided by each Party regarding equipment availability.

29.1.6 Perform such other duties as may be conferred upon it by mutual agreement of the Parties.

Article 30. Miscellaneous

30.1 Binding Effect. This LGIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

30.2 Conflicts. In the event of a conflict between the body of this LGIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this LGIA shall prevail and be deemed the final intent of the Parties.

30.3 Rules of Interpretation. This LGIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the

plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this LGIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this LGIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this LGIA or such Appendix to this LGIA, or such Section to the LGIP or such Appendix to the LGIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this LGIA as a whole and not to any particular Article or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including," "to" means "to but excluding" and "through" means "through and including."

30.4 Entire Agreement. This LGIA, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this LGIA. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this LGIA.

30.5 No Third Party Beneficiaries. This LGIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

30.6 Waiver. The failure of a Party to this LGIA to insist, on any occasion, upon strict performance of any provision of this LGIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this LGIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this LGIA. Termination or Default of this LGIA for any reason by Interconnection Customer shall not constitute a waiver of Interconnection Customer's legal rights to obtain an interconnection from Transmission Provider. Any waiver of this LGIA shall, if requested, be provided in writing.

30.7 Headings. The descriptive headings of the various Articles of this LGIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this LGIA.

30.8 Multiple Counterparts. This LGIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

30.9 Amendment. The Parties may by mutual agreement amend this LGIA by a written instrument duly executed by the Parties.

30.10 Modification by the Parties. The Parties may by mutual agreement amend the Appendices to this LGIA by a written instrument duly executed by the Parties. Such amendment shall become effective and a part of this LGIA upon satisfaction of all Applicable Laws and Regulations.

30.11 Reservation of Rights. Transmission Provider shall have the right to make a unilateral filing with FERC to modify this LGIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section

205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this LGIA pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this LGIA shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

30.12 No Partnership. This LGIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

IN WITNESS WHEREOF, the Parties have executed this LGIA in duplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

{Insert name of Transmission Provider or Transmission Owner, if applicable}

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

{Insert name of Interconnection Customer}

By: _____

Title: _____

Date: _____

Docket No. RM22-14-001

Appendix A to LGIA

Interconnection Facilities, Network Upgrades and Distribution Upgrades

1. Interconnection Facilities:

(a) {insert Interconnection Customer's Interconnection Facilities}:

(b) {insert Transmission Provider's Interconnection Facilities}:

2. Network Upgrades:

(a) {insert Stand Alone Network Upgrades}:

(b) {insert Substation Network Upgrades}:

(c) {insert System Network Upgrades}:

3. Distribution Upgrades:

Docket No. RM22-14-001

Appendix B to LGIA

Milestones

Site Control

Check box if applicable { }

Interconnection Customer with qualifying regulatory limitations must demonstrate 100% Site Control by {Transmission Provider to insert date *one hundred eighty (*180*) Calendar* [d]*D*ays from the effective date of this LGIA} or the LGIA may be terminated per Article 17 (Default) of this LGIA and [the] Interconnection Customer may be subject to Withdrawal Penalties per Section 3.7.1.1 of [the] Transmission Provider's LGIP (Calculation of the Withdrawal Penalty).

Docket No. RM22-14-001

Appendix C to LGIA

Interconnection Details

Docket No. RM22-14-001

Appendix D to LGIA

Security Arrangements Details

Infrastructure security of Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day Transmission System reliability and operational security. FERC will expect all Transmission Providers, market participants, and Interconnection Customers interconnected to the Transmission System to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

Docket No. RM22-14-001

Appendix E to LGIA

Commercial Operation Date

This Appendix E is a part of the LGIA between Transmission Provider and Interconnection Customer.

{Date}

{Transmission Provider Address}

Re: _____ Large Generating Facility

Dear _____:

On **{Date} {Interconnection Customer}** has completed Trial Operation of Unit No. ___. This letter confirms that {Interconnection Customer} commenced Commercial Operation of Unit No. ___ at the Large Generating Facility, effective as of **{Date plus one day}**.

Thank you.

{Signature}

{Interconnection Customer Representative}

Docket No. RM22-14-001

Appendix F to LGIA

Addresses for Delivery of Notices and Billings

Notices:[.]

Transmission Provider:

{To be supplied.}

Interconnection Customer:

{To be supplied.}

Billings and Payments:

Transmission Provider:

{To be supplied.}

Interconnection Customer:

{To be supplied.}

Alternative Forms of Delivery of Notices (telephone, facsimile or email):

Transmission Provider:

{To be supplied.}

Interconnection Customer:

{To be supplied.}

APPENDIX G

INTERCONNECTION REQUIREMENTS FOR A WIND GENERATING PLANT

Appendix G sets forth requirements and provisions specific to a wind generating plant *or a Generating Facility that contains a wind generating plant*. All other requirements of this LGIA continue to apply to wind generating plant interconnections.

A. Technical Standards Applicable to a Wind Generating Plant

i. Low Voltage Ride-Through (LVRT) Capability

A wind generating plant shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

Transition Period LVRT Standard

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) interconnection agreements signed and filed with the Commission, filed with the Commission in unexecuted form, or filed with the Commission as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) wind generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by [the] transmission provider. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or "GSU"), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.
2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAr Compensator, etc.) within the wind generating plant or by a combination of

generator performance and additional equipment.

5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

Post-transition Period LVRT Standard

All wind generating plants subject to FERC Order No. 661 and not covered by the transition period described above must meet the following requirements:

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by [the] transmission provider. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system. A wind generating plant shall remain interconnected during such a fault on the transmission system for a voltage

level as low as zero volts, as measured at the high voltage side of the wind GSU.

2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU.

3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.

4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator) within the wind generating plant or by a combination of generator performance and additional equipment.

Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

ii. Power Factor Design Criteria (Reactive Power)

The following reactive power requirements apply only to a newly interconnecting wind generating plant that has executed a Facilities Study Agreement as of the effective date of the Final Rule establishing the reactive power requirements for non-synchronous generators in [Section]*article* 9.6.1 of this LGIA (Order No. 827). A wind generating plant to which this provision applies shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this

LGIA, if [the] Transmission Provider's Cluster Study shows that such a requirement is necessary to ensure safety or reliability. The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability [606] (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by [the] Transmission Provider, or a combination of the two. **[**The] Interconnection Customer shall not disable power factor equipment while the wind plant is in operation. Wind plants shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the [System Impact] *Cluster* Study shows this to be required for system safety or reliability.

iii. Supervisory Control and Data Acquisition (SCADA) Capability

The wind plant shall provide SCADA capability to transmit data and receive instructions from [the] Transmission Provider to protect system reliability. [The] Transmission Provider and the wind plant Interconnection Customer shall determine what SCADA information is essential for the proposed wind plant, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

Appendix H to LGIA

Operating Assumptions for Generating Facility

Check box if applicable { }

Operating Assumptions:

{insert operating assumptions that reflect the charging behavior of the Generating Facility that includes at least one electric storage resource}

Appendix E: Changes to *pro forma* SGIP

Small Generator Interconnection Procedures (SGIP)

(For Generating Facilities No Larger Than 20 MW)

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Attachment 1 – Glossary of Terms

Attachment 2 – Small Generator Interconnection Request

Attachment 3 – Certification Codes and Standards

Attachment 4 – Certification of Small Generator Equipment Packages

Attachment 5 – Application, Procedures, and Terms and Conditions for Interconnecting a Certified Invertor-Based Small Generating Facility No Larger than 10 kW ("10 kW Inverter Process").

Attachment 6 – Feasibility Study Agreement

Attachment 7 – System Impact Study Agreement

Attachment 8 – Facilities Study Agreement

Section 1. Application

1.1 Applicability

1.1.1 A request to interconnect a certified Small Generating Facility (See Attachments 3 and 4 for description of certification criteria) to [the] Transmission Provider's Distribution System shall be evaluated under the section 2 Fast Track Process if the eligibility requirements of section 2.1 are met. A request to interconnect a certified inverter-based Small Generating Facility no larger than 10 kilowatts (kW) shall be evaluated under the Attachment 5 10 kW Inverter Process. A request to interconnect a Small Generating Facility no larger than 20 megawatts (MW) that does not meet the eligibility requirements of section 2.1, or does not pass the Fast Track Process or the 10 kW Inverter Process, shall be evaluated under the section 3 Study Process. If [the] Interconnection Customer wishes to interconnect its Small Generating Facility using Network Resource Interconnection Service, it must do so under the Standard Large Generator Interconnection Procedures and execute the Standard Large Generator Interconnection Agreement.

1.1.2 Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 or the body of these procedures.

1.1.3 Neither these procedures nor the requirements included hereunder apply to Small Generating Facilities interconnected or approved for interconnection prior to *sixty (*60*)* Business Days after the effective date of these procedures.

1.1.4 Prior to submitting its Interconnection Request (Attachment 2), [the] Interconnection Customer may ask [the] Transmission Provider's interconnection contact employee or office whether the proposed interconnection is subject to these procedures. [The] Transmission Provider shall respond within *fifteen (*15*)* Business Days.

1.1.5 Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. The Federal Energy Regulatory Commission expects all Transmission Providers, market participants, and Interconnection Customers interconnected with electric systems to comply

with the recommendations offered by the President's Critical Infrastructure Protection Board and best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for electric system infrastructure and operational security, including physical, operational, and cyber-security practices.

1.1.6 References in these procedures to interconnection agreement are to the Small Generator Interconnection Agreement (SGIA).

1.2 Pre-Application

1.2.1 [The] Transmission Provider shall designate an employee or office from which information on the application process and on an Affected System can be obtained through informal requests from [the] Interconnection Customer presenting a proposed project for a specific site. The name, telephone number, and e-mail address of such contact employee or office shall be made available on [the] Transmission Provider's Internet web site. Electric system information provided to [the] Interconnection Customer should include relevant system studies, interconnection studies, and other materials useful to an understanding of an interconnection at a particular point on [the] Transmission Provider's Transmission System, to the extent such provision does not violate confidentiality provisions of prior agreements or critical infrastructure requirements. [The] Transmission Provider shall comply with reasonable requests for such information.

1.2.2 In addition to the information described in section 1.2.1, which may be provided in response to an informal request, an Interconnection Customer may submit a formal written request form along with a non-refundable fee of $300 for a pre-application report on a proposed project at a specific site. [The] Transmission Provider shall provide the pre-application data described in section 1.2.3 to [the] Interconnection Customer within *twenty (*20*)* Business Days of receipt of the completed request form and payment of the $300 fee. The pre-application report produced by [the] Transmission Provider is non-binding, does not confer any rights, and [the] Interconnection Customer must still successfully apply to interconnect to [the] Transmission Provider's system. The written pre-application report request form shall include the information in sections 1.2.2.1 through

1.2.2.8 below to clearly and sufficiently identify the location of the proposed Point of Interconnection.

1.2.2.1 Project contact information, including name, address, phone number, and email address.

1.2.2.2 Project location (street address with nearby cross streets and town)

1.2.2.3 Meter number, pole number, or other equivalent information identifying proposed Point of Interconnection, if available.

1.2.2.4 Generator Type (e.g., solar, wind, combined heat and power, etc.)

1.2.2.5 Size (alternating current kW)

1.2.2.6 Single or three phase generator configuration

1.2.2.7 Stand-alone generator (no onsite load, not including station service – Yes or No?)

1.2.2.8 Is new service requested? Yes or No? If there is existing service, include the customer account number, site minimum and maximum current or proposed electric loads in kW (if available) and specify if the load is expected to change.

1.2.3. Using the information provided in the pre-application report request form in section 1.2.2, [the] Transmission Provider will identify the substation/area bus, bank or circuit likely to serve the proposed Point of Interconnection. This selection by [the] Transmission Provider does not necessarily indicate, after application of the screens and/or study, that this would be the circuit the project ultimately connects to. [The] Interconnection Customer must request additional pre-application reports if information about multiple Points of Interconnection is requested. Subject to section 1.2.4, the pre-application report will include the following information:

1.2.3.1 Total capacity (in MW) of substation/area bus, bank or circuit based on normal or operating ratings likely to serve the proposed Point of Interconnection.

1.2.3.2 Existing aggregate generation capacity (in MW) interconnected to a substation/area bus, bank or circuit (i.e., amount of generation online) likely to serve the proposed Point of Interconnection.

1.2.3.3 Aggregate queued generation capacity (in MW) for a substation/area bus, bank or circuit (i.e., amount of generation in the queue) likely to serve the proposed Point of Interconnection.

1.2.3.4 Available capacity (in MW) of substation/area bus or bank and circuit likely to serve the proposed Point of Interconnection (i.e., total capacity less the sum of existing aggregate generation capacity and aggregate queued generation capacity).

1.2.3.5 Substation nominal distribution voltage and/or transmission nominal voltage if applicable.

1.2.3.6 Nominal distribution circuit voltage at the proposed Point of Interconnection.

1.2.3.7 Approximate circuit distance between the proposed Point of Interconnection and the substation.

1.2.3.8 Relevant line section(s) actual or estimated peak load and minimum load data, including daytime minimum load as described in section 2.4.4.1.1 below and absolute minimum load, when available.

1.2.3.9 Number and rating of protective devices and number and type (standard, bi-directional) of voltage regulating devices between the proposed Point of Interconnection and the substation/area. Identify whether the substation has a load tap changer.

1.2.3.10 Number of phases available at the proposed Point of Interconnection. If a single phase, distance from the three-phase circuit.

1.2.3.11 Limiting conductor ratings from the proposed Point of Interconnection to the distribution substation.

1.2.3.12 Whether the Point of Interconnection is located on a spot network, grid network, or radial supply.

1.2.3.13 Based on the proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

1.2.4 The pre-application report need only include existing data. A pre-application report request does not obligate [the] Transmission Provider to conduct a study or other analysis of the proposed generator in the event that data is not readily available. If [the] Transmission Provider cannot complete all or some of a pre-application report due to lack of available data, the

Transmission Provider shall provide [the] Interconnection Customer with a pre-application report that includes the data that is available. The provision

Of information on "available capacity" pursuant to section 1.2.3.4 does not imply that an interconnection up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, and data provided in the pre-application report may become outdated at the time of the submission of the complete Interconnection Request. Notwithstanding any of the provisions of this section, [the] Transmission Provider shall, in good faith, include data in the pre-application report that represents the best available information at the time of reporting.

1.3 Interconnection Request

[The] Interconnection Customer shall submit its Interconnection Request to [the] Transmission Provider, together with the processing fee or deposit specified in the Interconnection Request. The Interconnection Request shall be date- and time-stamped upon receipt. The original date- and time-stamp applied to the Interconnection Request at the time of its original submission shall be accepted as the qualifying date- and time-stamp for the purposes of any timetable in these procedures. [The] Interconnection Customer shall be notified of receipt by [the] Transmission Provider within three *(3)* Business Days of receiving the Interconnection Request. [The] Transmission Provider shall notify [the] Interconnection Customer within

ten *(10)* Business Days of the receipt of the Interconnection Request as to whether the Interconnection Request is complete or incomplete. If the Interconnection Request is incomplete, [the] Transmission Provider shall provide along with the notice that the Interconnection Request is incomplete, a written list detailing all information that must be provided to complete the Interconnection Request. [The] Interconnection Customer will have ten *(10)* Business Days after receipt of the notice to submit the listed information or to request an extension of time to provide such information. If [the] Interconnection Customer does not provide the listed information or a request for an extension of time within the deadline, the Interconnection Request will be deemed withdrawn. An Interconnection Request will be deemed complete upon submission of the listed information to [the] Transmission Provider.

1.4 Modification of the Interconnection Request

Any modification to machine data or equipment configuration or to the interconnection site of the Small Generating Facility not agreed to in writing by [the] Transmission Provider and [the] Interconnection Customer may be deemed a withdrawal of the Interconnection Request and may require submission of a new Interconnection Request, unless proper notification of each Party by the other and a reasonable time to cure the problems created by the changes are undertaken. Any such modification of the Interconnection Request must be accompanied by any resulting updates to the models described in Attachment 2 of this SGIP.

1.5 Site Control

Documentation of site control must be submitted with the Interconnection Request. Site control may be demonstrated through:

1.5.1 Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Small Generating Facility;

1.5.2 An option to purchase or acquire a leasehold site for such purpose; or

1.5.3 An exclusivity or other business relationship between [the] Interconnection Customer and the entity having the right to sell, lease, or grant [the] Interconnection Customer the right to possess or occupy a site for such purpose.

1.6 Queue Position

[The] Transmission Provider shall assign a Queue Position based upon the date- and time-stamp of the Interconnection Request. The Queue Position of each Interconnection Request will be used to determine the cost responsibility for the Upgrades necessary to accommodate the interconnection. [The] Transmission Provider shall maintain a single queue per geographic region. At [the] Transmission Provider's option, Interconnection Requests may be studied serially or in clusters for the purpose of the system impact study.

1.7 Interconnection Requests Submitted Prior to the Effective Date of the SGIP

Nothing in this SGIP affects an Interconnection Customer's Queue Position assigned before the effective date of this SGIP. The Parties agree to complete work on any interconnection study agreement executed prior the effective date of this SGIP in accordance with the terms and conditions of that interconnection study agreement. Any new studies or other additional work will be completed pursuant to this SGIP.

Section 2. Fast Track Process

2.1 Applicability

The Fast Track Process is available to an Interconnection Customer proposing to interconnect its Small Generating Facility with [the] Transmission Provider's Distribution System if the Small Generating Facility's capacity does not exceed the size limits identified in the table below. Small Generating Facilities below these limits are eligible for Fast Track review. However, Fast Track eligibility is distinct from the Fast Track Process itself, and eligibility does not imply or indicate that a Small Generating Facility will pass the Fast Track screens in section 2.2.1 below or the Supplemental Review screens in section 2.4.4 below.

Fast Track eligibility is determined based upon the generator type, the size of the generator, voltage of the line and the location of and the type of line at the Point of Interconnection. All Small Generating Facilities connecting to lines greater than 69 kilovolt (kV) are ineligible for the Fast Track Process regardless of size. All synchronous and induction machines must be no larger than 2 MW to be eligible for the Fast Track Process, regardless of location. For certified inverter-based systems, the size limit varies according to the voltage of the line at the proposed

Point of Interconnection. Certified inverter-based Small Generating Facilities located within 2.5 electrical circuit miles of a substation and on a mainline (as defined in the table below) are eligible for the Fast Track Process under the higher thresholds according to the table below. In addition to the size threshold, [the] Interconnection Customer's proposed Small Generating Facility must meet the codes, standards, and certification requirements of Attachments 3 and 4 of these procedures, or [the] Transmission Provider has to have reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

Fast Track Eligibility for Inverter-Based Systems		
Line Voltage	Fast Track Eligibility Regardless of Location	Fast Track Eligibility on a Mainline[1] and ≤ 2.5 Electrical Circuit Miles from Substation[2]
< 5 kV	≤ 500 kW	≤ 500 kW
≥ 5 kV and < 15 kV	≤ 2 MW	≤ 3 MW
≥ 15 kV and < 30 kV	≤ 3 MW	≤ 4 MW
≥ 30 kV and ≤ 69 kV	≤ 4 MW	≤ 5 MW

[1] For purposes of this table, a mainline is the three-phase backbone of a circuit. It will typically constitute lines with wire sizes of 4/0 American wire gauge, 336.4 kcmil, 397.5 kcmil, 477 kcmil and 795 kcmil.

[2] An Interconnection Customer can determine this information about its proposed interconnection location in advance by requesting a pre-application report pursuant to section 1.2.

2.2 Initial Review

Within *fifteen (*15*)* Business Days after [the] Transmission Provider notifies [the] Interconnection Customer it has received a complete Interconnection Request, [the] Transmission Provider shall perform an initial review using the screens set forth below, shall notify [the] Interconnection Customer of the results, and include with the notification copies of the analysis and data underlying [the] Transmission Provider's determinations under the screens.

2.2.1 Screens

2.2.1.1 The proposed Small Generating Facility's Point of Interconnection must be on a portion of [the] Transmission Provider's Distribution System that is subject to the Tariff.

2.2.1.2 For interconnection of a proposed Small Generating Facility to a radial distribution circuit, the aggregated generation, including the proposed Small Generating Facility, on the circuit shall not exceed 15 % of the line section annual peak load as most recently measured at the substation. A line section is that portion of a Transmission Provider's electric system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.

2.2.1.3 For interconnection of a proposed Small Generating Facility to the load side of spot network protectors, the proposed Small Generating Facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of 5 % of a spot network's maximum load or 50 kW.[3]

2.2.1.4 The proposed Small Generating Facility, in aggregation with other generation on the distribution circuit, shall not contribute more than 10 % to the distribution circuit's

[3] A spot network is a type of distribution system found within modern commercial buildings to provide high reliability of service to a single customer. (Standard Handbook for Electrical Engineers, 11th edition, Donald Fink, McGraw Hill Book Company)

maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership.

2.2.1.5 The proposed Small Generating Facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed 87.5 % of the short circuit interrupting capability; nor shall the interconnection be proposed for a circuit that already exceeds 87.5 % of the short circuit interrupting capability.

2.2.1.6 Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the Interconnecting Customer, including line configuration and the transformer connection to limit the potential for creating over-voltages on [the] Transmission Provider's electric power system due to a loss of ground during the operating time of any anti-islanding function.

Primary Distribution Line Type	**Type of Interconnection to Primary Distribution Line**	**Result/Criteria**
Three-phase, three wire	3-phase or single phase, phase-to-phase	Pass screen
Three-phase, four wire	Effectively-grounded 3 phase or Single-phase, line-to-neutral	Pass screen

2.2.1.7 If the proposed Small Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary,

including the proposed Small Generating Facility, shall not exceed 20 kW.

2.2.1.8 If the proposed Small Generating Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20 % of the nameplate rating of the service transformer.

2.2.1.9 The Small Generating Facility, in aggregate with other generation interconnected to the transmission side of a substation transformer feeding the circuit where the Small Generating Facility proposes to interconnect shall not exceed 10 MW in an area where there are known, or posted, transient stability limitations to generating units located in the general electrical vicinity (e.g., three or four transmission busses from the point of interconnection).

2.2.1.10 No construction of facilities by [the] Transmission Provider on its own system shall be required to accommodate the Small Generating Facility.

2.2.2 If the proposed interconnection passes the screens, the Interconnection Request shall be approved and [the] Transmission Provider will provide [the] Interconnection Customer an executable interconnection agreement within five *(5)* Business Days after the determination.

2.2.3 If the proposed interconnection fails the screens, but [the] Transmission Provider determines that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards, [the] Transmission Provider shall provide [the] Interconnection Customer an executable interconnection agreement within five *(5)* Business Days after the determination.

2.2.4 If the proposed interconnection fails the screens, and [the] Transmission Provider does not or cannot determine from the initial review that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality

standards unless [the] Interconnection Customer is willing to consider minor modifications or further study, [the] Transmission Provider shall provide [the] Interconnection Customer with the opportunity to attend a customer options meeting.

2.3 Customer Options Meeting

If [the] Transmission Provider determines the Interconnection Request cannot be approved without (1) minor modifications at minimal cost, (2) a supplemental study or other additional studies or actions, or (3) incurring significant cost to address safety, reliability, or power quality problems, [the] Transmission Provider shall notify [the] Interconnection Customer of that determination within five *(5)* Business Days after the determination and provide copies of all data and analyses underlying its conclusion. Within ten *(10)* Business Days of [the] Transmission Provider's determination, [the] Transmission Provider shall offer to convene a customer options meeting with [the] Transmission Provider to review possible Interconnection Customer facility modifications or the screen analysis and related results, to determine what further steps are needed to permit the Small Generating Facility to be connected safely and reliably. At the time of notification of [the] Transmission Provider's determination, or at the customer options meeting, [the] Transmission Provider shall:

2.3.1 Offer to perform facility modifications or minor modifications to [the] Transmission Provider's electric system (e.g., changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to [the] Transmission Provider's electric system. If [the] Interconnection Customer agrees to pay for the modifications to the

Transmission Provider's electric system, [the] Transmission Provider will provide [the] Interconnection Customer with an executable interconnection agreement within ten *(10)* Business Days of the customer options meeting; or

2.3.2 Offer to perform a supplemental review in accordance with section 2.4 and provide a non-binding good faith estimate of the costs of such review; or

2.3.3 Obtain [the] Interconnection Customer's agreement to continue evaluating the Interconnection Request under the section 3 Study Process.

2.4 Supplemental Review

2.4.1 To accept the offer of a supplemental review, [the] Interconnection Customer shall agree in writing and submit a deposit for the estimated costs of the supplemental review in the amount of [the] Transmission Provider's good faith estimate of the costs of such review, both within *fifteen (*15*)* Business Days of the offer. If the written agreement and deposit have not been received by [the] Transmission Provider within that timeframe, the Interconnection Request shall continue to be evaluated under the section 3 Study Process unless it is withdrawn by [the] Interconnection Customer.

2.4.2 [The] Interconnection Customer may specify the order in which [the] Transmission Provider will complete the screens in section 2.4.4.

2.4.3 [The] Interconnection Customer shall be responsible for [the] Transmission Provider's actual costs for conducting the supplemental review. [The] Interconnection Customer must pay any review costs that exceed the deposit within *twenty (*20*)* Business Days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, [the] Transmission Provider will return such excess within *twenty (*20*)* Business Days of the invoice without interest.

2.4.4 Within *thirty (*30*)* Business Days following receipt of the deposit for a supplemental review, [the] Transmission Provider shall (1) perform a supplemental review using the screens set forth below; (2) notify in writing [the] Interconnection Customer of the results; and (3) include with the notification copies of the analysis and data underlying [the] Transmission Provider's determinations under the screens. Unless [the] Interconnection Customer provided instructions for how to respond to the failure of any of the supplemental review screens below at the time [the] Interconnection Customer accepted the offer of supplemental review, [the] Transmission Provider shall notify [the] Interconnection Customer following the failure of any of the screens, or if it is unable to perform the screen in section 2.4.4.1, within two *(2)* Business Days of making such determination to obtain [the] Interconnection Customer's permission to: (1) continue evaluating the proposed

interconnection under this section 2.4.4; (2) terminate the supplemental review and continue evaluating the Small Generating Facility under section 3; or (3) terminate the supplemental review upon withdrawal of the Interconnection Request by [the] Interconnection Customer.

2.4.4.1 Minimum Load Screen: Where 12 months of line section minimum load data (including onsite load but not station service load served by the proposed Small Generating Facility) are available, can be calculated, can be estimated from existing data, or determined from a power flow model, the aggregate Generating Facility capacity on the line section is less than 100% of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the proposed Small Generating Facility. If minimum load data is not available, or cannot be calculated, estimated or determined, [the] Transmission Provider shall include the reason(s) that it is unable to calculate, estimate or determine minimum load in its supplemental review results notification under section 2.4.4.

2.4.4.1.1 The type of generation used by the proposed Small Generating Facility will be taken into account when calculating, estimating, or determining circuit or line section minimum load relevant for the application of screen 2.4.4.1. Solar photovoltaic (PV) generation systems with no battery storage use daytime minimum load (i.e. 10 a.m. to 4 p.m. for fixed panel systems and 8 a.m. to 6 p.m. for PV systems utilizing tracking systems), while all other generation uses absolute minimum load.

2.4. 4.1.2 When this screen is being applied to a Small Generating Facility that serves some station

service load, only the net injection into [the] Transmission Provider's electric system will be considered as part of the aggregate generation.

2.4. 4.1.3 Transmission Provider will not consider as part of the aggregate generation for purposes of this screen generating facility capacity known to be already reflected in the minimum load data.

2.4.4.2 Voltage and Power Quality Screen: In aggregate with existing generation on the line section: (1) the voltage regulation on the line section can be maintained in compliance with relevant requirements under all system conditions; (2) the voltage fluctuation is within acceptable limits as defined by Institute of Electrical and Electronics Engineers (IEEE) Standard 1453, or utility practice similar to IEEE Standard 1453; and (3) the harmonic levels meet IEEE Standard 519 limits.

2.4.4.3 Safety and Reliability Screen: The location of the proposed Small Generating Facility and the aggregate generation capacity on the line section do not create impacts to safety or reliability that cannot be adequately addressed without application of the Study Process. [The] Transmission Provider shall give due consideration to the following and other factors in determining potential impacts to safety and reliability in applying this screen.

2.4.4.3.1 Whether the line section has significant minimum loading levels dominated by a small number of customers (e.g., several large commercial customers).

2.4.4.3.2 Whether the loading along the line section is uniform or even.

2.4.4.3.3 Whether the proposed Small Generating Facility is located in close proximity to the substation (i.e., less than 2.5 electrical circuit miles), and whether the line section from the substation to the Point of Interconnection is a

Mainline rated for normal and emergency ampacity.

2.4.4.3.4 Whether the proposed Small Generating Facility incorporates a time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time.

2.4.4.3.5 Whether operational flexibility is reduced by the proposed Small Generating Facility, such that transfer of the line section(s) of the Small Generating Facility to a neighboring distribution circuit/substation may trigger overloads or voltage issues.

2.4.4.3.6 Whether the proposed Small Generating Facility employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, islanding, reverse power flow, or voltage quality.

2.4.5 If the proposed interconnection passes the supplemental screens in sections 2.4.4.1, 2.4.4.2, and 2.4.4.3 above, the Interconnection Request shall be approved and [the] Transmission Provider will provide [the] Interconnection Customer with an executable interconnection agreement within the timeframes established in sections 2.4.5.1 and 2.4.5.2 below. If the proposed interconnection fails any of the supplemental review screens and [the] Interconnection Customer does not withdraw its Interconnection Request, it shall continue to be evaluated under the section 3 Study Process consistent with section 2.4.5.3 below.

2.4.5.1 If the proposed interconnection passes the supplemental screens in sections 2.4.4.1, 2.4.4.2, and 2.4.4.3 above and does not require construction of facilities by [the] Transmission Provider on its own system, the interconnection agreement shall be provided within ten *(10)* Business Days after the notification of the supplemental review results.

2.4.5.2 If interconnection facilities or minor modifications to [the] Transmission Provider's system are required for the proposed interconnection to pass the supplemental screens in sections 2.4.4.1, 2.4.4.2, and 2.4.4.3 above, and [the] Interconnection Customer agrees to pay for the modifications to [the] Transmission Provider's electric system, the interconnection agreement, along with a non-binding good faith estimate for the interconnection facilities and/or minor modifications, shall be provided to [the] Interconnection Customer within *fifteen (*15*)* Business Days after receiving written notification of the supplemental review results.

2.4.5.3 If the proposed interconnection would require more than interconnection facilities or minor modifications to [the] Transmission Provider's system to pass the supplemental screens in sections 2.4.4.1, 2.4.4.2, and 2.4.4.3 above, [the] Transmission Provider shall notify [the] Interconnection Customer, at the same time it notifies [the] Interconnection Customer with the supplemental review results, that the Interconnection Request shall be evaluated under the section 3 Study Process unless [the] Interconnection Customer withdraws its Small Generating Facility.

Section 3. Study Process

3.1 Applicability

The Study Process shall be used by an Interconnection Customer proposing to interconnect its Small Generating Facility with [the] Transmission Provider's Transmission System or Distribution System if the Small Generating Facility (1) is larger than 2 MW but no larger than 20 MW, (2) is not certified, or (3) is certified but did not pass the Fast Track Process or the 10 kW Inverter Process.

3.2 Scoping Meeting

3.2.1 A scoping meeting will be held within ten *(10)* Business Days after the Interconnection Request is deemed complete, or as otherwise mutually agreed to by the Parties. [The] Transmission Provider and [the] Interconnection Customer will bring to the meeting personnel, including

system engineers and other resources as may be reasonably required to accomplish the purpose of the meeting.

3.2.2 The purpose of the scoping meeting is to discuss the Interconnection Request and review existing studies relevant to the Interconnection Request. The Parties shall further discuss whether [the] Transmission Provider should perform a feasibility study or proceed directly to a system impact study, or a facilities study, or an interconnection agreement. If the Parties agree that a feasibility study should be performed, [the] Transmission Provider shall provide [the] Interconnection Customer, as soon as possible, but not later than five *(5)* Business Days after the scoping meeting, a feasibility study agreement (Attachment 6) including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

3.2.3 The scoping meeting may be omitted by mutual agreement. In order to remain in consideration for interconnection, an Interconnection Customer who has requested a feasibility study must return the executed feasibility study agreement within *fifteen (*15*)* Business Days. If the Parties agree not to perform a feasibility study, [the] Transmission Provider shall provide [the] Interconnection Customer, no later than five *(5)* Business Days after the scoping meeting, a system impact study agreement (Attachment 7) including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

3.3 Feasibility Study

3.3.1 The feasibility study shall identify any potential adverse system impacts that would result from the interconnection of the Small Generating Facility.

3.3.2 A deposit of the lesser of 50 percent of the good faith estimated feasibility study costs or earnest money of $1,000 may be required from [the] Interconnection Customer.

3.3.3 The scope of and cost responsibilities for the feasibility study are described in the attached feasibility study agreement (Attachment 6).

3.3.4 If the feasibility study shows no potential for adverse system impacts, [the] Transmission Provider shall send [the] Interconnection Customer a facilities study agreement, including an outline of the scope of the study

and a non-binding good faith estimate of the cost to perform the study. If no additional facilities are required, [the] Transmission Provider shall send [the] Interconnection Customer an executable interconnection agreement within five *(5)* Business Days.

3.3.5 If the feasibility study shows the potential for adverse system impacts, the review process shall proceed to the appropriate system impact study(s).

3.3.6 The feasibility study shall evaluate static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting. Transmission Provider shall evaluate each identified alternative transmission technology and determine whether it should be used, consistent with Good Utility Practice, *Applicable Reliability Standards*, and *Applicable Laws and Regulations* [other applicable regulatory requirements]. Transmission Provider shall include an explanation of the results of Transmission Provider's evaluation for each technology in the feasibility study report.

3.4 System Impact Study

3.4.1 A system impact study shall identify and detail the electric system impacts that would result if the proposed Small Generating Facility were interconnected without project modifications or electric system modifications, focusing on the adverse system impacts identified in the feasibility study, or to study potential impacts, including but not limited to those identified in the scoping meeting. A system impact study shall evaluate the impact of the proposed interconnection on the reliability of the electric system.

3.4.2 If no transmission system impact study is required, but potential electric power Distribution System adverse system impacts are identified in the scoping meeting or shown in the feasibility study, a distribution system impact study must be performed. [The] Transmission Provider shall send [the] Interconnection Customer a distribution system impact study agreement within *fifteen (*15*)* Business Days of transmittal of the feasibility study report, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, or following the scoping meeting if no feasibility study is to be performed.

3.4.3 In instances where the feasibility study or the distribution system impact study shows potential for transmission system adverse system impacts, within five *(5)* Business Days following transmittal of the feasibility study report, [the] Transmission Provider shall send [the] Interconnection Customer a transmission system impact study agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, if such a study is required.

3.4.4 If a transmission system impact study is not required, but electric power Distribution System adverse system impacts are shown by the feasibility study to be possible and no distribution system impact study has been conducted, Transmission Provider shall send Interconnection Customer a distribution system impact study agreement.

3.4.5 If the feasibility study shows no potential for transmission system or Distribution System adverse system impacts, [the] Transmission Provider shall send [the] Interconnection Customer either a facilities study agreement (Attachment 8), including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, or an executable interconnection agreement, as applicable.

3.4.6 In order to remain under consideration for interconnection, [the] Interconnection Customer must return executed system impact study agreements, if applicable, within *thirty (*30*)* Business Days.

3.4.7 A deposit of the good faith estimated costs for each system impact study may be required from [the] Interconnection Customer.

3.4.8 The scope of and cost responsibilities for a system impact study are described in the attached system impact study agreement.

3.4.9 Where transmission systems and Distribution Systems have separate owners, such as is the case with transmission-dependent utilities (“TDUs”) – whether investor-owned or not – [the] Interconnection Customer may apply to the nearest Transmission Provider (Transmission Owner, Regional Transmission Operator, or Independent Transmission Provider) providing transmission service to the TDU to request project coordination. Affected Systems shall participate in the study and provide all information necessary to prepare the study.

3.4.10 The system impact study shall evaluate static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting. Transmission Provider shall evaluate each identified alternative transmission technology and determine whether it should be used, consistent with Good Utility Practice, *Applicable Reliability Standards,* and *Applicable Laws and Regulations* [other applicable regulatory requirements]. Transmission Provider shall include an explanation of the results of Transmission Provider's evaluation for each technology in the system impact study report.

3.5 Facilities Study

3.5.1 Once the required system impact study(s) is completed, a system impact study report shall be prepared and transmitted to [the] Interconnection Customer along with a facilities study agreement within five *(5)* Business Days, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the facilities study. In the case where one or both impact studies are determined to be unnecessary, a notice of the fact shall be transmitted to [the] Interconnection Customer within the same timeframe.

3.5.2 In order to remain under consideration for interconnection, or, as appropriate, in [the] Transmission Provider's interconnection queue, [the] Interconnection Customer must return the executed facilities study agreement or a request for an extension of time within *thirty (*30*)* Business Days.

3.5.3 The facilities study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overheads) needed to implement the conclusions of the system impact study(s).

3.5.4 Design for any required Interconnection Facilities and/or Upgrades shall be performed under the facilities study agreement. [The] Transmission Provider may contract with consultants to perform activities required under the facilities study agreement. [The] Interconnection Customer and [the] Transmission Provider may agree to allow [the] Interconnection Customer to separately arrange for the design of some of the Interconnection Facilities. In such cases, facilities design will be reviewed and/or modified

prior to acceptance by [the] Transmission Provider, under the provisions of the facilities study agreement. If the Parties agree to separately arrange for design and construction, and provided security and confidentiality requirements can be met, [the] Transmission Provider shall make sufficient information available to [the] Interconnection Customer in accordance with confidentiality and critical infrastructure requirements to permit [the] Interconnection Customer to obtain an independent design and cost estimate for any necessary facilities.

3.5.5 A deposit of the good faith estimated costs for the facilities study may be required from [the] Interconnection Customer.

3.5.6 The scope of and cost responsibilities for the facilities study are described in the attached facilities study agreement.

3.5.7 Upon completion of the facilities study, and with the agreement of [the] Interconnection Customer to pay for Interconnection Facilities and Upgrades identified in the facilities study, [the] Transmission Provider shall provide [the] Interconnection Customer an executable interconnection agreement within five *(5)* Business Days.

Section 4. Provisions that Apply to All Interconnection Requests

4.1 Reasonable Efforts

[The] Transmission Provider shall make reasonable efforts to meet all time frames provided in these procedures unless [the] Transmission Provider and [the] Interconnection Customer agree to a different schedule. If [the] Transmission Provider cannot meet a deadline provided herein, it shall notify [the] Interconnection Customer, explain the reason for the failure to meet the deadline, and provide an estimated time by which it will complete the applicable interconnection procedure in the process.

4.2 Disputes

4.2.1 The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this article.

4.2.2 In the event of a dispute, either Party shall provide the other Party with a written Notice of Dispute. Such Notice shall describe in detail the nature of the dispute.

4.2.3 If the dispute has not been resolved within two *(2)* Business Days after receipt of the Notice, either Party may contact FERC's Dispute Resolution Service (DRS) for assistance in resolving the dispute.

4.2.4 The DRS will assist the Parties in either resolving their dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the Parties in resolving their dispute. DRS can be reached at 1-877-337-2237 or via the internet at http://www.ferc.gov/legal/adr.asp.

4.2.5 Each Party agrees to conduct all negotiations in good faith and will be responsible for one-half of any costs paid to neutral third-parties.

4.2.6 If neither Party elects to seek assistance from the DRS, or if the attempted dispute resolution fails, then either Party may exercise whatever rights and remedies it may have in equity or law consistent with the terms of these procedures.

4.3 Interconnection Metering

Any metering necessitated by the use of the Small Generating Facility shall be installed at [the] Interconnection Customer's expense in accordance with Federal Energy Regulatory Commission, state, or local regulatory requirements or [the] Transmission Provider's specifications.

4.4 Commissioning

Commissioning tests of [the] Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards. [The] Transmission Provider must be given at least five *(5)* Business Days written notice, or as otherwise mutually agreed to by the Parties, of the tests and may be present to witness the commissioning tests.

4.5. Confidentiality

4.5.1 Confidential information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated "Confidential." For purposes of these procedures

all design, operating specifications, and metering data provided by [the] Interconnection Customer shall be deemed confidential information regardless of whether it is clearly marked or otherwise designated as such.

4.5.2 Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce these procedures. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under these procedures, or to fulfill legal or regulatory requirements.

4.5.2.1 Each Party shall employ at least the same standard of care to protect Confidential Information obtained from the other Party as it employs to protect its own Confidential Information.

4.5.2.2 Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.

4.5.3 Notwithstanding anything in this article to the contrary, and pursuant to 18 CFR § 1b.20, if FERC, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to these procedures, the Party shall provide the requested information to FERC, within the time provided for in the request for information. In providing the information to FERC, the Party may, consistent with 18 CFR § 388.112, request that the information be treated as confidential and non-public by FERC and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party prior to the release of the Confidential Information to FERC. The Party shall notify the other Party when it is notified by FERC that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such

information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

4.6 Comparability

[The] Transmission Provider shall receive, process and analyze all Interconnection Requests in a timely manner as set forth in this document. [The] Transmission Provider shall use the same reasonable efforts in processing and analyzing Interconnection Requests from all Interconnection Customers, whether the Small Generating Facility is owned or operated by [the] Transmission Provider, its subsidiaries or affiliates, or others.

4.7 Record Retention

[The] Transmission Provider shall maintain for three years records, subject to audit, of all Interconnection Requests received under these procedures, the times required to complete Interconnection Request approvals and disapprovals, and justification for the actions taken on the Interconnection Requests.

4.8 Interconnection Agreement

After receiving an interconnection agreement from [the] Transmission Provider, [the] Interconnection Customer shall have *thirty (*30*)* Business Days or another mutually agreeable timeframe to sign and return the interconnection agreement or request that [the] Transmission Provider file an unexecuted interconnection agreement with the Federal Energy Regulatory Commission. If [the] Interconnection Customer does not sign the interconnection agreement, or ask that it be filed unexecuted by [the] Transmission Provider within *thirty (*30*)* Business Days, the Interconnection Request shall be deemed withdrawn. After the interconnection agreement is signed by the Parties, the interconnection of the Small Generating Facility shall proceed under the provisions of the interconnection agreement.

4.9 Coordination with Affected Systems

[The] Transmission Provider shall coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System operators and, if possible, include those results (if available) in its applicable interconnection study within the time frame specified in these

procedures. [The] Transmission Provider will include such Affected System operators in all meetings held with [the] Interconnection Customer as required by these procedures. [The] Interconnection Customer will cooperate with [the] Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A Transmission Provider which may be an Affected System shall cooperate with [the] Transmission Provider with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems.

4.10 Capacity of the Small Generating Facility

4.10.1 If the Interconnection Request is for an increase in capacity for an existing Small Generating Facility, the Interconnection Request shall be evaluated on the basis of the new total capacity of the Small Generating Facility.

4.10.2 If the Interconnection Request is for a Small Generating Facility that includes multiple energy production devices at a site for which [the] Interconnection Customer seeks a single Point of Interconnection, the Interconnection Request shall be evaluated on the basis of the aggregate capacity of the multiple devices.

4.10.3 The Interconnection Request shall be evaluated using the maximum capacity that the Small Generating Facility is capable of injecting into [the] Transmission Provider's electric system. However, if the maximum capacity that the Small Generating Facility is capable of injecting into [the] Transmission Provider's electric system is limited (e.g., through use of a control system, power relay(s), or other similar device settings or adjustments), then [the] Interconnection Customer must obtain [the] Transmission Provider's agreement, with such agreement not to be unreasonably withheld, that the manner in which [the] Interconnection Customer proposes to implement such a limit will not adversely affect the safety and reliability of [the] Transmission Provider's system. If [the] Transmission Provider does not so agree, then the Interconnection Request must be withdrawn or revised to specify the maximum capacity that the Small Generating Facility is capable of injecting into [the] Transmission Provider's electric system without such

limitations. Furthermore, nothing in this section shall prevent a Transmission Provider from considering an output higher than the limited output, if appropriate, when evaluating system protection impacts.

Attachment 1

Glossary of Terms

10 kW Inverter Process – The procedure for evaluating an Interconnection Request for a certified inverter-based Small Generating Facility no larger than 10 kW that uses the section 2 screens. The application process uses an all-in-one document that includes a simplified Interconnection Request, simplified procedures, and a brief set of terms and conditions. See SGIP Attachment 5.

Affected System – An electric system other than [the] Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Applicable Reliability Standards *– The requirements and guidelines of the Electric Reliability Organization and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected.*

Applicable Laws and Regulations *– All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.*

Business Day – Monday through Friday, excluding Federal Holidays.

Distribution System – [The] Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

Distribution Upgrades – The additions, modifications, and upgrades to [the] Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Small Generating Facility and render the transmission service necessary to effect [the] Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Fast Track Process – The procedure for evaluating an Interconnection Request for a certified Small Generating Facility that meets the eligibility requirements of section 2.1 and includes the section 2 screens, customer options meeting, and optional supplemental review.

Good Utility Practice – Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and act which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Interconnection Customer – Any entity, including [the] Transmission Provider, the Transmission Owner or any of the affiliates or subsidiaries of either, that proposes to interconnect its Small Generating Facility with [the] Transmission Provider's Transmission System.

Interconnection Facilities – [The] Transmission Provider's Interconnection Facilities and [the] Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to [the] Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

Interconnection Request – [The] Interconnection Customer's request, in accordance with the Tariff, to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Small Generating Facility that is interconnected with [the] Transmission Provider's Transmission System.

Material Modification – A modification that has a material impact on the cost or timing of any Interconnection Request with a later queue priority date.

Network Resource – Any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service – An Interconnection Service that allows [the] Interconnection Customer to integrate its Generating Facility with [the]

Transmission Provider's System (1) in a manner comparable to that in which [the] Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades – Additions, modifications, and upgrades to [the] Transmission Provider's Transmission System required at or beyond the point at which the Small Generating Facility interconnects with [the] Transmission Provider's Transmission System to accommodate the interconnection with the Small Generating Facility to [the] Transmission Provider's Transmission System. Network Upgrades do not include Distribution Upgrades.

Party or Parties – [The] Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Point of Interconnection – The point where the Interconnection Facilities connect with [the] Transmission Provider's Transmission System.

Queue Position – The order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, that is established based upon the date and time of receipt of the valid Interconnection Request by [the] Transmission Provider.

Small Generating Facility – [The] Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include [the] Interconnection Customer's Interconnection Facilities.

Study Process – The procedure for evaluating an Interconnection Request that includes the section 3 scoping meeting, feasibility study, system impact study, and facilities study.

Transmission Owner – The entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Small Generator Interconnection Agreement to the extent necessary.

Transmission Provider – The public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from [the] Transmission Provider.

Transmission System – The facilities owned, controlled or operated by [the] Transmission Provider or the Transmission Owner that are used to provide transmission service under the Tariff.

Upgrades – The required additions and modifications to [the] Transmission Provider's Transmission System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

Attachment 2

SMALL GENERATOR INTERCONNECTION REQUEST

(Application Form)

Transmission Provider: _____

Designated Contact Person: _____

Address: _____

Telephone Number: _____

Fax: _____

E-Mail Address: _____

An Interconnection Request is considered complete when it provides all applicable and correct information required below. Per SGIP section 1.5, documentation of site control must be submitted with the Interconnection Request.

Preamble and Instructions

An Interconnection Customer who requests a Federal Energy Regulatory Commission jurisdictional interconnection must submit this Interconnection Request by hand delivery, mail, e-mail, or fax to [the] Transmission Provider.

Processing Fee or Deposit:

If the Interconnection Request is submitted under the Fast Track Process, the non-refundable processing fee is $500.

If the Interconnection Request is submitted under the Study Process, whether a new submission or an Interconnection Request that did not pass the Fast Track Process, [the] Interconnection Customer shall submit to [the] Transmission Provider a deposit not to exceed $1,000 towards the cost of the feasibility study.

Interconnection Customer Information

Legal Name of [the] Interconnection Customer (or, if an individual, individual's name)

Name: _____

Contact Person: _____

Mailing Address:

_____

City: _____ State:_____ Zip:_____

Facility Location (if different from above):

_____

_____

Telephone (Day): _____ Telephone (Evening): _____

Fax:_____ E-Mail Address: _____

Alternative Contact Information (if different from [the] Interconnection Customer)

Contact Name: _____

Title: _____

Address:_____

_____

Telephone (Day): _____ Telephone (Evening):_____

Fax: _____ E-Mail Address: _____

Application is for: _____New Small Generating Facility

_____Capacity addition to Existing Small Generating Facility

If capacity addition to existing facility, please describe: _____

_____

Will the Small Generating Facility be used for any of the following?

Net Metering? Yes ___ No ___

To Supply Power to [the] Interconnection Customer? Yes ___No ___

To Supply Power to Others? Yes ____ No ____

For installations at locations with existing electric service to which the proposed Small Generating Facility will interconnect, provide:

_____ _____

(Local Electric Service Provider*) (Existing Account Number*)

{*To be provided by [the] Interconnection Customer if the local electric service provider is different from [the] Transmission Provider}

Contact Name:

_____

Title:

_____

Address:

_____

_____

Telephone (Day): _____ Telephone (Evening):

_____

Fax: _____ E-Mail Address:

_____

Requested Point of Interconnection:

_____

_____

Interconnection Customer's Requested In-Service Date:

_____

Small Generating Facility Information

Data apply only to the Small Generating Facility, not the Interconnection Facilities.

Energy Source: ___Solar ___Wind ___Hydro ___ Hydro Type (e.g. Run-of-River):_____ __Diesel __ Natural Gas __ Fuel Oil Other (state type)

_____

Prime Mover: __Fuel Cell __Recip Engine __Gas Turb __Steam Turb

__Microturbine __PV __Other

Type of Generator: ____Synchronous ____Induction ____ Inverter

Generator Nameplate Rating: _____kW (Typical) Generator Nameplate kVAR: _____

Interconnection Customer or Customer-Site Load: _____kW (if none, so state)

Typical Reactive Load (if known): _____

Maximum Physical Export Capability Requested: _____ kW

List components of the Small Generating Facility equipment package that are currently certified:

	Equipment Type	Certifying Entity
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

Is the prime mover compatible with the certified protective relay package? ____Yes ____No

Generator (or solar collector) Manufacturer, Model Name & Number: _____

Version Number: _____

Nameplate Output Power Rating in kW: (Summer) _____ (Winter) _____

Nameplate Output Power Rating in kVA: (Summer) _____ (Winter) _____

Individual Generator Power Factor

Rated Power Factor: Leading: _____Lagging: _____

Total Number of Generators in wind farm to be interconnected pursuant to this Interconnection Request: _____ Elevation:_____ ___Single phase ___Three phase

Inverter Manufacturer, Model Name & Number (if used):_____

List of adjustable set points for the protective equipment or software: _____

Note: A completed Power Systems Load Flow data sheet must be supplied with the Interconnection Request.

Small Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current: _____ Instantaneous or RMS_____?

Harmonics Characteristics: _____

Start-up requirements: _____

Small Generating Facility Characteristic Data (for rotating machines)

RPM Frequency: _____

(*) Neutral Grounding Resistor (If Applicable): _____

Synchronous Generators:

Direct Axis Synchronous Reactance, X_d: _____ P.U.

Direct Axis Transient Reactance, X'_d: _____P.U.

Direct Axis Subtransient Reactance, X''_d: _____P.U.

Negative Sequence Reactance, X_2: _____ P.U.

Zero Sequence Reactance, X_0: _____ P.U.

KVA Base: _____

Field Volts: _____

Field Amperes: _____

Induction Generators:

Motoring Power (kW): _____

I22t or K (Heating Time Constant): _____

Rotor Resistance, Rr: _____

Stator Resistance, Rs: _____

Stator Reactance, Xs: _____

Rotor Reactance, Xr: _____

Magnetizing Reactance, Xm: _____

Short Circuit Reactance, Xd": _____

Exciting Current: _____

Temperature Rise: _____

Frame Size: _____

Design Letter: _____

Reactive Power Required In Vars (No Load): _____

Reactive Power Required In Vars (Full Load): _____

Total Rotating Inertia, H: _____ Per Unit on kVA Base

Note: Please contact [the] Transmission Provider prior to submitting the Interconnection Request to determine if the specified information above is required.

Excitation and Governor System Data for Synchronous Generators Only

Provide appropriate IEEE model block diagram of excitation system, governor system and power system stabilizer (PSS) in accordance with the regional reliability council criteria. A PSS may be determined to be required by applicable studies. A copy of the manufacturer's block diagram may not be substituted.

Models for Non-synchronous Small Generating Facilities

For a non-synchronous Small Generating Facility, Interconnection Customer shall provide (1) a validated user-defined root mean squared (RMS) positive sequence dynamics model; (2) an appropriately parameterized generic library RMS positive sequence dynamics model, including model block diagram of the inverter control and plant control systems, as defined by the selection in Table 1 or a model otherwise approved by the Western Electricity Coordinating Council, that corresponds to Interconnection Customer's Small Generating Facility; and (3) if applicable, a validated electromagnetic transient model if Transmission Provider performs an electromagnetic transient study as part of the interconnection study process. A user-defined model is a set of programming code created by equipment manufacturers or developers that captures the latest features of controllers that are mainly software based and represents the entities' control strategies but does not necessarily correspond to any generic library model. Interconnection Customer must also demonstrate that the model is validated by providing evidence that the equipment behavior is consistent with the model behavior (e.g., an attestation from Interconnection Customer that the model accurately represents the entire Small Generating Facility; attestations from each equipment manufacturer that the user defined model accurately represents the component of the Small Generating Facility; or test data).

Table 1: Acceptable Generic Library RMS Positive Sequence Dynamics Models

GE PSLF	Siemens PSS/E*	PowerWorld Simulator	Description
pvd1		PVD1	Distributed PV system model
der_a	DERAU1	DER_A	Distributed energy resource model
regc_a	REGCAU1, REGCA1	REGC_A	Generator/converter model
regc_b	REGCBU1	REGC_B	Generator/converter model
wt1g	WT1G1	WT1G and WT1G1	Wind turbine model for Type-1 wind turbines (conventional directly connected induction generator)

GE PSLF	Siemens PSS/E*	PowerWorld Simulator	Description
wt2g	WT2G1	WT2G and WT2G1	Generator model for generic Type-2 wind turbines
wt2e	WT2E1	WT2E and WT2E1	Rotor resistance control model for wound-rotor induction wind-turbine generator wt2g
reec_a	REECAU1, REECA1	REEC_A	Renewable energy electrical control model
reec_c	REECCU1	REEC_C	Electrical control model for battery energy storage system
reec_d	REECDU1	REEC_D	Renewable energy electrical control model
wt1t	WT12T1	WT1T and WT12T1	Wind turbine model for Type-1 wind turbines (conventional directly connected induction generator)
wt1p_b	wt1p_b	WT12A1U_B	Generic wind turbine pitch controller for WTGs of Types 1 and 2
wt2t	WT12T1	WT2T	Wind turbine model for Type-2 wind turbines (directly connected induction generator wind turbines with an external rotor resistance)
wtgt_a	WTDTAU1, WTDTA1	WTGT_A	Wind turbine drive train model
wtga_a	WTARAU1, WTARA1	WTGA_A	Simple aerodynamic model
wtgp_a	WTPTAU1, WTPTA1	WTGPT_A	Wind Turbine Generator Pitch controller
wtgq_a	WTTQAU1, WTTQA1	WTGTRQ_A	Wind Turbine Generator Torque controller
wtgwgo_a	WTGWGOAU	WTGWGO_A	Supplementary control model for Weak Grids
wtgibffr_a	WTGIBFFRA	WTGIBFFR_A	Inertial-base fast frequency response control
wtgp_b	WTPTBU1	WTGPT_B	Wind Turbine Generator Pitch controller
wtgt_b	WTDTBU1	WTGT_B	Drive train model

GE PSLF	Siemens PSS/E*	PowerWorld Simulator	Description
repc_a	Type 4: REPCAU1 (v33), REPCA1 (v34) Type 3: REPCTAU1 (v33), REPCTA1 (v34)	REPC_A	Power Plant Controller
repc_b	PLNTBU1	REPC_B	Power Plant Level Controller for controlling several plants/devices In regard to Siemens PSS/E*: Names of other models for interface with other devices: REA3XBU1, REAX4BU1- for interface with Type 3 and 4 renewable machines SWSAXBU1- for interface with SVC (modeled as switched shunt in powerflow) SYNAXBU1- for interface with synchronous condenser FCTAXBU1- for interface with FACTS device
repc_c	REPCCU	REPC_C	Power plant controller

Interconnection Facilities Information

Will a transformer be used between the generator and the point of common coupling?

__Yes __No

Will the transformer be provided by [the] Interconnection Customer? ____Yes ____No

Transformer Data (If Applicable, for Interconnection Customer-Owned Transformer):

Is the transformer: ____single phase _____three phase? Size: _____kVA

Transformer Impedance: _____% on _____kVA Base

If Three Phase:

Transformer Primary: _____ Volts _____ Delta _____Wye _____ Wye Grounded

Transformer Secondary: _____ Volts _____ Delta _____Wye _____ Wye Grounded

Transformer Tertiary: _____ Volts _____ Delta _____Wye _____ Wye Grounded

Transformer Fuse Data (If Applicable, for Interconnection Customer-Owned Fuse):

(Attach copy of fuse manufacturer's Minimum Melt and Total Clearing Time-Current Curves)

Manufacturer: _____ Type: _____ Size: _____ Speed: _____

Interconnecting Circuit Breaker (if applicable):

Manufacturer: _____ Type: _____

Load Rating (Amps): _____ Interrupting Rating (Amps): _____ Trip Speed (Cycles): _____

Interconnection Protective Relays (If Applicable):

If Microprocessor-Controlled:

List of Functions and Adjustable Setpoints for the protective equipment or software:

	Setpoint Function	Minimum	Maximum
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

If Discrete Components:

(Enclose Copy of any Proposed Time-Overcurrent Coordination Curves)

Manufacturer:_____	Type:____	Style/Catalog No.:_____	Proposed Setting:_____
Manufacturer:_____	Type:____	Style/Catalog No.:_____	Proposed Setting:_____
Manufacturer:_____	Type:____	Style/Catalog No.:_____	Proposed Setting:_____
Manufacturer:_____	Type:____	Style/Catalog No.:_____	Proposed Setting:_____
Manufacturer:_____	Type:____	Style/Catalog No.:_____	Proposed Setting:_____

Current Transformer Data (If Applicable):

(Enclose Copy of Manufacturer's Excitation and Ratio Correction Curves)

Manufacturer:

_____

Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

Manufacturer:

_____

Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

Potential Transformer Data (If Applicable):

Manufacturer:

_____

Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

Manufacturer: _____

Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

General Information

Enclose copy of site electrical one-line diagram showing the configuration of all Small Generating Facility equipment, current and potential circuits, and protection and control schemes. This one-line diagram must be signed and stamped by a licensed Professional Engineer if the Small Generating Facility is larger than 50 kW. Is One-Line Diagram Enclosed? ____Yes ____No

Enclose copy of any site documentation that indicates the precise physical location of the proposed Small Generating Facility (e.g., USGS topographic map or other diagram or documentation).

Proposed location of protective interface equipment on property (include address if different from [the] Interconnection Customer's address)_____

Enclose copy of any site documentation that describes and details the operation of the protection and control schemes. Is Available Documentation Enclosed? ___Yes ____No

Enclose copies of schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable).

Are Schematic Drawings Enclosed? ___Yes ____No

Applicant Signature

I hereby certify that, to the best of my knowledge, all the information provided in this Interconnection Request is true and correct.

For Interconnection Customer: _____ Date: _____

Attachment 3

Certification Codes and Standards

IEEE1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity)

UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems

IEEE Std 929-2000 IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems

NFPA 70 (2002), National Electrical Code

IEEE Std C37.90.1-1989 (R1994), IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems

IEEE Std C37.90.2 (1995), IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers

IEEE Std C37.108-1989 (R2002), IEEE Guide for the Protection of Network Transformers

IEEE Std C57.12.44-2000, IEEE Standard Requirements for Secondary Network Protectors

IEEE Std C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits

IEEE Std C62.45-1992 (R2002), IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits

ANSI C84.1-1995 Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)

IEEE Std 100-2000, IEEE Standard Dictionary of Electrical and Electronic Terms

NEMA MG 1-1998, Motors and Small Resources, Revision 3

IEEE Std 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1

Attachment 4

Certification of Small Generator Equipment Packages

1.0 Small Generating Facility equipment proposed for use separately or packaged with other equipment in an interconnection system shall be considered certified for interconnected operation if (1) it has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in SGIP Attachment 3, (2) it has been labeled and is publicly listed by such NRTL at the time of the interconnection application, and (3) such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer's literature accompanying the equipment.

2.0 [The] Interconnection Customer must verify that the intended use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.

3.0 Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for an on-site commissioning test by the parties to the interconnection nor follow-up production testing by the NRTL.

4.0 If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.

5.0 Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL, and does not violate the interface components' labeling and listing performed by the NRTL, no further design review, testing or additional equipment on the

customer side of the point of common coupling shall be required to meet the requirements of this interconnection procedure.

6.0 An equipment package does not include equipment provided by the utility.

7.0 Any equipment package approved and listed in a state by that state's regulatory body for interconnected operation in that state prior to the effective date of these small generator interconnection procedures shall be considered certified under these procedures for use in that state.

Attachment 5

Application, Procedures, and Terms and Conditions for Interconnecting a Certified Inverter-Based Small Generating Facility No Larger than 10 kW ("10 kW Inverter Process")

1.0 [The] Interconnection Customer ("Customer") completes the Interconnection Request ("Application") and submits it to [the] Transmission Provider ("Company").

2.0 The Company acknowledges to the Customer receipt of the Application within three *(3)* Business Days of receipt.

3.0 The Company evaluates the Application for completeness and notifies the Customer within ten *(10)* Business Days of receipt that the Application is or is not complete and, if not, advises what material is missing.

4.0 The Company verifies that the Small Generating Facility can be interconnected safely and reliably using the screens contained in the Fast Track Process in the Small Generator Interconnection Procedures (SGIP). The Company has *fifteen (*15*)* Business Days to complete this process. Unless the Company determines and demonstrates that the Small Generating Facility cannot be interconnected safely and reliably, the Company approves the Application and returns it to the Customer. Note to Customer: Please check with the Company before submitting the Application if disconnection equipment is required.

5.0 After installation, the Customer returns the Certificate of Completion to the Company. Prior to parallel operation, the Company may inspect the Small Generating Facility for compliance with standards which may include a witness test, and may schedule appropriate metering replacement, if necessary.

6.0 The Company notifies the Customer in writing that interconnection of the Small Generating Facility is authorized. If the witness test is not satisfactory, the Company has the right to disconnect the Small Generating Facility. The Customer has no right to operate in parallel until a witness test has been performed, or previously waived on the Application. The Company is obligated to complete this witness test within ten *(10)* Business Days of the receipt of the Certificate of

Completion. If the Company does not inspect within ten *(10)* Business Days or by mutual agreement of the Parties, the witness test is deemed waived.

7.0 Contact Information – The Customer must provide the contact information for the legal applicant (i.e., [the] Interconnection Customer). If another entity is responsible for interfacing with the Company, that contact information must be provided on the Application.

8.0 Ownership Information – Enter the legal names of the owner(s) of the Small Generating Facility. Include the percentage ownership (if any) by any utility or public utility holding company, or by any entity owned by either.

9.0 UL1741 Listed – This standard ("Inverters, Converters, and Controllers for Use in Independent Power Systems") addresses the electrical interconnection design of various forms of generating equipment. Many manufacturers submit their equipment to a Nationally Recognized Testing Laboratory (NRTL) that verifies compliance with UL1741. This "listing" is then marked on the equipment and supporting documentation.

Application for Interconnecting a Certified Inverter-Based Small Generating Facility No Larger than 10kW

This Application is considered complete when it provides all applicable and correct information required below. Per SGIP section 1.5, documentation of site control must be submitted with the Interconnection Request. Additional information to evaluate the Application may be required.

Processing Fee

A non-refundable processing fee of $100 must accompany this Application.

Interconnection Customer

Name:

_____

Contact Person:

_____

Address:

_____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Contact (if different from Interconnection Customer)

Name:

_____

Contact Person:

_____

Address:

_____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Owner of the facility (include % ownership by any electric utility):

_____

_____Small Generating Facility Information

Location (if different from above):

_____

Electric Service Company:

_____

Account Number:

_____

Inverter Manufacturer: _____ Model: _____ Nameplate Rating:_____(kW) _____(kVA) _____(AC Volts)

Single Phase ____ Three Phase____

System Design Capacity: _____ (kW) _____ (kVA)

Prime Mover: ___Photovoltaic ___Reciprocating Engine ___Fuel Cell ___Turbine ___Other (describe)_____

Energy Source: ___Solar ___Wind ___Hydro ___Diesel ___Natural Gas ___Fuel Oil ___Other (describe) _____

Is the equipment UL1741 Listed? ___Yes ___No

If Yes, attach manufacturer's cut-sheet showing UL1741 listing

Estimated Installation Date: _____ Estimated In-Service Date: _____

The 10 kW Inverter Process is available only for inverter-based Small Generating Facilities no larger than 10 kW that meet the codes, standards, and certification requirements of Attachments 3 and 4 of the Small Generator Interconnection Procedures (SGIP), or [the] Transmission Provider has reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

List components of the Small Generating Facility equipment package that are currently certified:

	Equipment Type	Certifying Entity
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

Interconnection Customer Signature

I hereby certify that, to the best of my knowledge, the information provided in this Application is true. I agree to abide by the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW and return the Certificate of Completion when the Small Generating Facility has been installed.

Signed:

_____

Title: _____ Date: _____

……

Contingent Approval to Interconnect the Small Generating Facility

(For Company use only)

Interconnection of the Small Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW and return of the Certificate of Completion.

Company Signature:

_____

Title: _____ Date: _____

Application ID number: _____

Company waives inspection/witness test? Yes___No___

Small Generating Facility Certificate of Completion

Is the Small Generating Facility owner-installed? Yes_____ No _____

Interconnection Customer:

_____

Contact Person:

_____

Address:

_____

Location of the Small Generating Facility (if different from above):

_____

_____

_____ City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Electrician:

Name:

_____

Address:

_____

Location of the Small Generating Facility (if different from above):

_____

_____

_____ City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

License number: _____

Date Approval to Install Facility granted by the Company: _____

Application ID number: _____

Inspection:

The Small Generating Facility has been installed and inspected in compliance with the local

building/electrical code of:

_____

Signed (Local electrical wiring inspector, or attach signed electrical inspection):

_____

Print Name: _____

Date: _____

As a condition of interconnection, you are required to send/fax a copy of this form along with a copy of the signed electrical permit to (insert Company information below):

Name: _____

Company: _____

Address:_____

_____

City, State ZIP: _____

Fax: _____

……

Approval to Energize the Small Generating Facility (For Company use only)

Energizing the Small Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW

Company Signature: _____

Title: _____ Date: _____

Terms and Conditions for Interconnecting an Inverter-Based

Small Generating Facility No Larger than 10kW

1.0 Construction of the Facility

[The] Interconnection Customer (the "Customer") may proceed to construct (including operational testing not to exceed two hours) the Small Generating Facility when [the] Transmission Provider (the "Company") approves the Interconnection Request (the "Application") and returns it to the Customer.

2.0 Interconnection and Operation

The Customer may operate Small Generating Facility and interconnect with the Company's electric system once all of the following have occurred:

2.1 Upon completing construction, the Customer will cause the Small Generating Facility to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction, and

2.2 The Customer returns the Certificate of Completion to the Company, and

2.3 The Company has either:

2.3.1 Completed its inspection of the Small Generating Facility to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes. All inspections must be conducted by the Company, at its own expense, within ten *(10)* Business Days after receipt of the Certificate of Completion and shall take place at a time agreeable to the Parties. The Company shall provide a written statement that the Small Generating Facility has passed inspection or shall notify the Customer of what steps it must take to pass inspection as soon as practicable after the inspection takes place; or

2.3.2 If the Company does not schedule an inspection of the Small Generating Facility within ten *(10)* [b]*B*usiness [d]*D*ays after receiving the Certificate of Completion, the witness test is deemed waived (unless the Parties agree otherwise); or

2.3.3 The Company waives the right to inspect the Small Generating Facility.

2.4 The Company has the right to disconnect the Small Generating Facility in the event of improper installation or failure to return the Certificate of Completion.

2.5 Revenue quality metering equipment must be installed and tested in accordance with applicable ANSI standards.

3.0 Safe Operations and Maintenance

The Customer shall be fully responsible to operate, maintain, and repair the Small Generating Facility as required to ensure that it complies at all times with the interconnection standards to which it has been certified.

4.0 Access

The Company shall have access to the disconnect switch (if the disconnect switch is required) and metering equipment of the Small Generating Facility at all times. The Company shall provide reasonable notice to the Customer when possible prior to using its right of access.

5.0 Disconnection

The Company may temporarily disconnect the Small Generating Facility upon the following conditions:

5.1 For scheduled outages upon reasonable notice.

5.2 For unscheduled outages or emergency conditions.

5.3 If the Small Generating Facility does not operate in the manner consistent with these Terms and Conditions.

5.4 The Company shall inform the Customer in advance of any scheduled disconnection, or as is reasonable after an unscheduled disconnection.

6.0 Indemnification

The Parties shall at all times indemnify, defend, and save the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

7. 0 Insurance

The Parties agree to follow all applicable insurance requirements imposed by the state in which the Point of Interconnection is located. All insurance policies must be maintained with insurers authorized to do business in that state.

8.0 Limitation of Liability

Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever, except as allowed under paragraph 6.0.

9.0 Termination

The agreement to operate in parallel may be terminated under the following conditions:

9.1 **By the Customer**

By providing written notice to the Company.

9.2 **By the Company**

If the Small Generating Facility fails to operate for any consecutive 12 month period or the Customer fails to remedy a violation of these Terms and Conditions.

9.3 **Permanent Disconnection**

In the event this Agreement is terminated, the Company shall have the right to disconnect its facilities or direct the Customer to disconnect its Small Generating Facility.

9.4 **Survival Rights**

This Agreement shall continue in effect after termination to the extent necessary to allow or require either Party to fulfill rights or obligations that arose under the Agreement.

10.0 Assignment/Transfer of Ownership of the Facility

This Agreement shall survive the transfer of ownership of the Small Generating Facility to a new owner when the new owner agrees in writing to comply with the terms of this Agreement and so notifies the Company.

Attachment 6

Feasibility Study Agreement

THIS AGREEMENT is made and entered into this _____day of _____

20___ by and between_____,

a _____organized and existing under the laws of the State of

_____, ("Interconnection Customer,") and

_____, a_____

organized and existing under the laws of the State
of_____,

("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Interconnection Request completed by Interconnection Customer on_____; and

WHEREAS, Interconnection Customer desires to interconnect the Small Generating Facility with [the] Transmission Provider's Transmission System; and

WHEREAS, Interconnection Customer has requested [the] Transmission Provider to perform a feasibility study to assess the feasibility of interconnecting the proposed Small Generating Facility with [the] Transmission Provider's Transmission System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Small Generator Interconnection Procedures.

2.0 [The] Interconnection Customer elects and [the] Transmission Provider shall cause to be performed an interconnection feasibility study consistent the standard Small

Generator Interconnection Procedures in accordance with the Open Access Transmission Tariff.

3.0 The scope of the feasibility study shall be subject to the assumptions set forth in Attachment A to this Agreement.

4.0 The feasibility study shall be based on the technical information provided by [the] Interconnection Customer in the Interconnection Request, as may be modified as the result of the scoping meeting. [The] Transmission Provider reserves the right to request additional technical information from [the] Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the feasibility study and as designated in accordance with the standard Small Generator Interconnection Procedures. If [the] Interconnection Customer modifies its Interconnection Request, the time to complete the feasibility study may be extended by agreement of the Parties.

5.0 In performing the study, [the] Transmission Provider shall rely, to the extent reasonably practicable, on existing studies of recent vintage. [The] Interconnection Customer shall not be charged for such existing studies; however, [the] Interconnection Customer shall be responsible for charges associated with any new study or modifications to existing studies that are reasonably necessary to perform the feasibility study.

6.0 The feasibility study report shall provide the following analyses for the purpose of identifying any potential adverse system impacts that would result from the interconnection of the Small Generating Facility as proposed:

6.1 Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

6.2 Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;

6.3 Initial review of grounding requirements and electric system protection; and

6.4 Description and non-binding estimated cost of facilities required to interconnect the proposed Small Generating Facility and to address the identified short circuit and power flow issues.

7.0 The feasibility study shall model the impact of the Small Generating Facility regardless of purpose in order to avoid the further expense and interruption of operation for reexamination of feasibility and impacts if [the] Interconnection Customer later changes the purpose for which the Small Generating Facility is being installed.

8.0 The study shall include the feasibility of any interconnection at a proposed project site where there could be multiple potential Points of Interconnection, as requested by [the] Interconnection Customer and at [the] Interconnection Customer's cost.

9.0 A deposit of the lesser of 50 percent of good faith estimated feasibility study costs or earnest money of $1,000 may be required from [the] Interconnection Customer.

10.0 Once the feasibility study is completed, a feasibility study report shall be prepared and transmitted to [the] Interconnection Customer. Barring unusual circumstances, the feasibility study must be completed and the feasibility study report transmitted within *thirty (*30*)* Business Days of [the] Interconnection Customer's agreement to conduct a feasibility study.

11.0 Any study fees shall be based on [the] Transmission Provider's actual costs and will be invoiced to [the] Interconnection Customer after the study is completed and delivered and will include a summary of professional time.

12.0 [The] Interconnection Customer must pay any study costs that exceed the deposit without interest within *thirty (*30*)* [c]*C*alendar [d]*D*ays on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, [the] Transmission Provider shall refund such excess within *thirty (*30*)* [c]*C*alendar [d]*D*ays of the invoice without interest.

13.0 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations.

Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

14.0 Amendment

The Parties may amend this Agreement by a written instrument duly executed by both Parties.

15.0 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

16.0 Waiver

16.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

16.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of [the] Interconnection Customer's legal rights to obtain an interconnection from [the] Transmission Provider. Any waiver of this Agreement shall, if requested, be provided in writing.

17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any

partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

20.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall [the] Transmission Provider be liable for the actions or inactions of [the] Interconnection Customer or its subcontractors with respect to obligations of [the] Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor’s insurance.

21.0 Reservation of Rights

[The] Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and [the] Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider}	{Insert name of Interconnection Customer}
_____	_____
Signed: _____	Signed: _____
Name (Printed):	Name (Printed):
_____	_____
Title: _____	Title: _____

Attachment A to

Feasibility Study Agreement

Assumptions Used in Conducting the Feasibility Study

The feasibility study will be based upon the information set forth in the Interconnection Request and agreed upon in the scoping meeting held on _____:

1) Designation of Point of Interconnection and configuration to be studied.

2) Designation of alternative Points of Interconnection and configuration.

1) and 2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by [the] Interconnection Customer and [the] Transmission Provider.

Attachment 7

System Impact Study Agreement

THIS AGREEMENT is made and entered into this _____day of_____

20___ by and between_____,

a_____ organized and existing under the laws of the State of

_____, ("Interconnection Customer,") and

_____, a_____

organized and existing under the laws of the State
of_____,

("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, [the] Interconnection Customer is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Interconnection Request completed by [the] Interconnection Customer on_____; and

WHEREAS, [the] Interconnection Customer desires to interconnect the Small Generating Facility with [the] Transmission Provider's Transmission System;

WHEREAS, [the] Transmission Provider has completed a feasibility study and provided the results of said study to [the] Interconnection Customer (This recital to be omitted if the Parties have agreed to forego the feasibility study.); and

WHEREAS, [the] Interconnection Customer has requested [the] Transmission Provider to perform a system impact study(s) to assess the impact of interconnecting the Small Generating Facility with [the] Transmission Provider's Transmission System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Small Generator Interconnection Procedures.

2.0 [The] Interconnection Customer elects and [the] Transmission Provider shall cause to be performed a system impact study(s) consistent with the standard Small Generator Interconnection Procedures in accordance with the Open Access Transmission Tariff.

3.0 The scope of a system impact study shall be subject to the assumptions set forth in Attachment A to this Agreement.

4.0 A system impact study will be based upon the results of the feasibility study and the technical information provided by Interconnection Customer in the Interconnection Request. [The] Transmission Provider reserves the right to request additional technical information from [the] Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the system impact study. If [the] Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the time to complete the system impact study may be extended.

5.0 A system impact study shall consist of a short circuit analysis, a stability analysis, a power flow analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews, as necessary. A system impact study shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. A system impact study shall provide a list of facilities that are required as a result of the Interconnection Request and non-binding good faith estimates of cost responsibility and time to construct.

6.0 A distribution system impact study shall incorporate a distribution load flow study, an analysis of equipment interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, grounding reviews, and the impact on electric system operation, as necessary.

7.0 Affected Systems may participate in the preparation of a system impact study, with a division of costs among such entities as they may agree. All Affected Systems shall be afforded an opportunity to review and comment upon a system impact study that covers potential adverse system impacts on their electric

systems, and [the] Transmission Provider has *twenty (*20*)* additional Business Days to complete a system impact study requiring review by Affected Systems.

8.0 If [the] Transmission Provider uses a queuing procedure for sorting or prioritizing projects and their associated cost responsibilities for any required Network Upgrades, the system impact study shall consider all generating facilities (and with respect to paragraph 8.3 below, any identified Upgrades associated with such higher queued interconnection) that, on the date the system impact study is commenced –

8.1 Are directly interconnected with [the] Transmission Provider's electric system; or

8.2 Are interconnected with Affected Systems and may have an impact on the proposed interconnection; and

8.3 Have a pending higher queued Interconnection Request to interconnect with [the] Transmission Provider's electric system.

9.0 A distribution system impact study, if required, shall be completed and the results transmitted to [the] Interconnection Customer within *thirty (*30*)* Business Days after this Agreement is signed by the Parties. A transmission system impact study, if required, shall be completed and the results transmitted to [the] Interconnection Customer within *forty-five (*45*)* Business Days after this Agreement is signed by the Parties, or in accordance with [the] Transmission Provider's queuing procedures.

10.0 A deposit of the equivalent of the good faith estimated cost of a distribution system impact study and the one half the good faith estimated cost of a transmission system impact study may be required from [the] Interconnection Customer.

11.0 Any study fees shall be based on [the] Transmission Provider's actual costs and will be invoiced to [the] Interconnection Customer after the study is completed and delivered and will include a summary of professional time.

12.0 [The] Interconnection Customer must pay any study costs that exceed the deposit without interest within *thirty (*30*)* [c]*C*alendar [d]*D*ays on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, [the] Transmission Provider shall refund such excess within *thirty (*30*)* [c]*C*alendar [d]*D*ays of the invoice without interest.

13.0 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

14.0 Amendment

The Parties may amend this Agreement by a written instrument duly executed by both Parties.

15.0 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

16.0 Waiver

16.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

16.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of [the] Interconnection Customer's legal rights to obtain an interconnection from [the] Transmission Provider. Any waiver of this Agreement shall, if requested, be provided in writing.

17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

20.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall [the] Transmission Provider be liable for the actions or inactions of [the] Interconnection Customer or its subcontractors with respect to obligations of [the] Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

[The] Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and [the] Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable

provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider}	{Insert name of Interconnection Customer}
_____	_____
Signed: _____	Signed: _____
Name (Printed):	Name (Printed):
_____	_____
Title: _____	Title: _____

Attachment A to System

Impact Study Agreement

Assumptions Used in Conducting the System Impact Study

The system impact study shall be based upon the results of the feasibility study, subject to any modifications in accordance with the standard Small Generator Interconnection Procedures, and the following assumptions:

1) Designation of Point of Interconnection and configuration to be studied.

2) Designation of alternative Points of Interconnection and configuration.

1) and 2) are to be completed by [the] Interconnection Customer. Other assumptions (listed below) are to be provided by [the] Interconnection Customer and [the] Transmission Provider.

Docket No. RM22-14-001

Attachment 8

Facilities Study Agreement

THIS AGREEMENT is made and entered into this _____day of_____

20___ by and between_____,

a _____organized and existing under the laws of the State of

_____, ("Interconnection Customer,") and

_____, a_____

organized and existing under the laws of the State
of_____,

("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, [the] Interconnection Customer is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Interconnection Request completed by [the] Interconnection Customer on_____; and

WHEREAS, [the] Interconnection Customer desires to interconnect the Small Generating Facility with [the] Transmission Provider's Transmission System;

WHEREAS, [the] Transmission Provider has completed a system impact study and provided the results of said study to [the] Interconnection Customer; and

WHEREAS, [the] Interconnection Customer has requested [the] Transmission Provider to perform a facilities study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the system impact study in accordance with Good Utility Practice to physically and electrically connect the Small Generating Facility with [the] Transmission Provider's Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Small Generator Interconnection Procedures.

2.0 [The] Interconnection Customer elects and [the] Transmission Provider shall cause a facilities study consistent with the standard Small Generator Interconnection Procedures to be performed in accordance with the Open Access Transmission Tariff.

3.0 The scope of the facilities study shall be subject to data provided in Attachment A to this Agreement.

4.0 The facilities study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overheads) needed to implement the conclusions of the system impact study(s). The facilities study shall also identify (1) the electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment, (2) the nature and estimated cost of [the] Transmission Provider's Interconnection Facilities and Upgrades necessary to accomplish the interconnection, and (3) an estimate of the time required to complete the construction and installation of such facilities.

5.0 [The] Transmission Provider may propose to group facilities required for more than one Interconnection Customer in order to minimize facilities costs through economies of scale, but any Interconnection Customer may require the installation of facilities required for its own Small Generating Facility if it is willing to pay the costs of those facilities.

6.0 A deposit of the good faith estimated facilities study costs may be required from [the] Interconnection Customer.

7.0 In cases where Upgrades are required, the facilities study must be completed within *forty-five (*45*)* Business Days of the receipt of this Agreement. In cases where no Upgrades are necessary, and the required facilities are limited to Interconnection Facilities, the facilities study must be completed within *thirty (*30*)* Business Days.

8.0 Once the facilities study is completed, a "draft" facilities study report shall be prepared and transmitted to [the] Interconnection Customer. Barring unusual

circumstances, the facilities study must be completed and the "draft" facilities study report transmitted within *thirty (*30*)* Business Days of [the] Interconnection Customer's agreement to conduct a facilities study.

9.0 Interconnection Customer may, within *thirty (*30*)* Calendar Days after receipt of the draft report, provide written comments to Transmission Provider, which Transmission Provider shall include in the final report. Transmission Provider shall issue the final Interconnection Facilities Study report within *fifteen (*15*)* Business Days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. Transmission Provider may reasonably extend such fifteen-day period upon notice to Interconnection Customer if Interconnection Customer's comments require Transmission Provider to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Report. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation, workpapers, and databases or data developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section 4.5 of the standard Small Generator Interconnection Procedures.

10.0 Within ten *(10)* Business Days of providing a draft Interconnection Facilities Study report to Interconnection Customer, Transmission Provider and Interconnection Customer shall meet to discuss the results of the Interconnection Facilities Study.

11.0 Any study fees shall be based on [the] Transmission Provider's actual costs and will be invoiced to [the] Interconnection Customer after the study is completed and delivered and will include a summary of professional time.

12.0 [The] Interconnection Customer must pay any study costs that exceed the deposit without interest within *thirty (*30*)* [c]*C*alendar [d]*D*ays on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, [the] Transmission Provider shall refund such excess within *thirty (*30*)* [c]*C*alendar [d]*D*ays of the invoice without interest.

13.0 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

14.0 Amendment

The Parties may amend this Agreement by a written instrument duly executed by both Parties.

15.0 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

16.0 Waiver

16.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

16.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of [the] Interconnection Customer's legal rights to obtain an interconnection from [the] Transmission Provider. Any waiver of this Agreement shall, if requested, be provided in writing.

17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

20.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall [the] Transmission Provider be liable for the actions or inactions of [the] Interconnection Customer or its subcontractors with respect to obligations of [the] Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

[The] Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and [the] Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

{Insert name of Transmission Provider} {Insert name of Interconnection Customer}

_____ _____

Signed_____ Signed_____

Name (Printed): Name (Printed):

_____ _____

Title_____ Title_____

Docket No. RM22-14-001

Attachment A to

Facilities Study Agreement

Data to Be Provided by [the] Interconnection Customer

with the Facilities Study Agreement

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

On the one-line diagram, indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one-line diagram, indicate the location of auxiliary power. (Minimum load on CT/PT) Amps

One set of metering is required for each generation connection to the new ring bus or existing Transmission Provider station. Number of generation connections:

_____

Will an alternate source of auxiliary power be available during CT/PT maintenance?

Yes ____ No ____

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? Yes ____ No ____

(Please indicate on the one-line diagram).

What type of control system or PLC will be located at the Small Generating Facility?

_____

_____

_____

_____

What protocol does the control system or PLC use?

_____

_____
_____

_____
_____

Please provide a 7.5-minute quadrangle map of the site. Indicate the plant, station, transmission line, and property lines.

Physical dimensions of the proposed interconnection station:

_____
_____Bus length from generation to interconnection station:

_____
_____Line length from interconnection station to Transmission Provider's Transmission System.

_____
_____Tower number observed in the field. (Painted on tower leg)*:

_____
_____Number of third party easements required for transmission lines*:

_____
_____ * To be completed in coordination with Transmission Provider.

Is the Small Generating Facility located in Transmission Provider's service area?

Yes _____ No _____ If No, please provide name of local provider:

_____
_____

Please provide the following proposed schedule dates:

Begin Construction Date: _____

Generator step-up transformers Date: _____

receive back feed power

Generation Testing Date: _____

Commercial Operation Date: _____

Docket No. RM22-14-001

Appendix F: Changes to pro forma SGIA

SMALL GENERATOR
INTERCONNECTION AGREEMENT (SGIA)

(For Generating Facilities No Larger Than 20 MW)

Docket No. RM22-14-001

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Attachment 5 – Additional Operating Requirements for [the] Transmission Provider's Transmission System and Affected Systems Needed to Support [the] Interconnection Customer's Needs

Attachment 6 – Transmission Provider's Description of its Upgrades and Best Estimate of Upgrade Costs

Docket No. RM22-14-001

This Interconnection Agreement ("Agreement") is made and entered into this _____ day of _____, 20__, by

_____

("Transmission Provider"), and

_____

("Interconnection Customer") each hereinafter sometimes referred to individually as "Party" or both referred to collectively as the "Parties."

Transmission Provider Information

Transmission Provider: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Interconnection Customer Information

Interconnection Customer: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Interconnection Customer Application No: _____

In consideration of the mutual covenants set forth herein, the Parties agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 *Applicability*
This Agreement shall be used for all Interconnection Requests submitted under the Small Generator Interconnection Procedures (SGIP) except for those submitted under the 10 kW Inverter Process contained in SGIP Attachment 5.

1.2 *Purpose*
This Agreement governs the terms and conditions under which [the] Interconnection Customer's Small Generating Facility will interconnect with, and operate in parallel with, [the] Transmission Provider's Transmission System.

1.3 *No Agreement to Purchase or Deliver Power*
This Agreement does not constitute an agreement to purchase or deliver [the] Interconnection Customer's power. The purchase or delivery of power and other services that [the] Interconnection Customer may require will be covered under separate agreements, if any. [The] Interconnection Customer will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity with the applicable Transmission Provider.

1.4 *Limitations*
Nothing in this Agreement is intended to affect any other agreement between [the] Transmission Provider and [the] Interconnection Customer.

1.5 Responsibilities of the Parties

1.5.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice.

1.5.2 [The] Interconnection Customer shall construct, interconnect, operate and maintain its Small Generating Facility and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, and in accordance with this Agreement, and with Good Utility Practice.

1.5.3 [The] Transmission Provider shall construct, operate, and maintain its Transmission System and Interconnection Facilities in accordance with this Agreement, and with Good Utility Practice.

1.5.4 [The] Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. [The] Interconnection Customer agrees to design, install, maintain, and operate its Small Generating Facility so as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the system or equipment of [the] Transmission Provider and any Affected Systems.

1.5.5 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Attachments to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the point of change of ownership. [The] Transmission Provider and [the] Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect [the] Transmission Provider’s Transmission System, personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities shall be delineated in the Attachments to this Agreement.

1.5.6 [The] Transmission Provider shall coordinate with all Affected Systems to support the interconnection.

1.5.7 [The] Interconnection Customer shall ensure "frequency ride through" capability and "voltage ride through" capability of its Small Generating Facility. [The] Interconnection Customer shall enable these capabilities such that its Small Generating Facility shall not disconnect automatically or instantaneously from the system or equipment of [the] Transmission Provider and any Affected Systems for a defined under-frequency or over-frequency condition, or an under-voltage or over-voltage condition, as tested pursuant to Section 2.1 of this agreement. The defined conditions shall be in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a comparable basis. The Small Generating Facility's protective equipment settings shall comply with [the] Transmission Provider's automatic load-shed program. [The] Transmission Provider shall review the protective equipment settings to confirm compliance with the automatic load-shed program. The term "ride through" as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of [the] Transmission Provider and any Affected Systems during system disturbances within a range of conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority *Area* on a comparable basis. The term "frequency ride through" as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of [the] Transmission Provider and any Affected Systems during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a comparable basis. The term "voltage ride through" as used herein shall mean the ability of a Small Generating Facility to stay connected to and synchronized with the system or equipment of [the] Transmission Provider and any Affected Systems during system disturbances within a range of under-voltage and over-voltage conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to

other generating facilities in the Balancing Authority Area on a comparable basis. For abnormal frequency conditions and voltage conditions within the "no trip zone" defined by Reliability Standard PRC-024-3 or successor mandatory ride through Applicable Reliability Standards, the non-synchronous Small Generating Facility must ensure that, within any physical limitations of the Small Generating Facility, its control and protection settings are configured or set to (1) continue active power production during disturbance and post disturbance periods at pre-disturbance levels *unless reactive power priority mode is enabled or* unless providing primary frequency response or fast frequency response; (2) minimize reductions in active power and remain within dynamic voltage and current limits, if reactive power priority mode is enabled, unless providing primary frequency response or fast frequency response; (3) not artificially limit dynamic reactive power capability during disturbances; and (4) return to pre-disturbance active power levels without artificial ramp rate limits if active power is reduced, unless providing primary frequency response or fast frequency response.

1.6 Parallel Operation Obligations

Once the Small Generating Facility has been authorized to commence parallel operation, [the] Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Small Generating Facility in the applicable Balancing Authority Area, including, but not limited to; 1) the rules and procedures concerning the operation of generation set forth in the Tariff or by the applicable system operator(s) for [the] Transmission Provider's Transmission System and; 2) the Operating Requirements set forth in Attachment 5 of this Agreement.

1.7 Metering

[The] Interconnection Customer shall be responsible for [the] Transmission Provider's reasonable and necessary cost for the purchase, installation, operation, maintenance, testing, repair, and replacement of metering and data acquisition equipment specified in Attachments 2 and 3 of this Agreement. [The] Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable industry rules and Operating Requirements.

1.8 Reactive Power and Primary Frequency Response

1.8.1 Power Factor Design Criteria

1.8.1.1 Synchronous Generation. [The] Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless [the] Transmission Provider has established different requirements that apply to all similarly situated synchronous generators in the Balancing Authority Area on a comparable basis.

1.8.1.2 Non-Synchronous Generation. [The] Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless [the] Transmission Provider has established a different power factor range that applies to all similarly situated non-synchronous generators in the Balancing Authority Area on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting non-synchronous generators that have not yet executed a Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).

1.8.2 [The] Transmission Provider is required to pay [the] Interconnection Customer for reactive power that [the] Interconnection Customer provides or absorbs from the Small Generating Facility when [the] Transmission Provider requests [the] Interconnection Customer to operate its Small Generating Facility outside the range specified in Article 1.8.1. In addition,

if [the] Transmission Provider pays its own or affiliated generators for reactive power service within the specified range, it must also pay [the] Interconnection Customer.

1.8.3 Payments shall be in accordance with [the] Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to a regional transmission organization or independent system operator FERC-approved rate schedule. To the extent that no rate schedule is in effect at the time [the] Interconnection Customer is required to provide or absorb reactive power under this Agreement, the Parties agree to expeditiously file such rate schedule and agree to support any request for waiver of the Commission's prior notice requirement in order to compensate [the] Interconnection Customer from the time service commenced.

1.8.4 Primary Frequency Response. Interconnection Customer shall ensure the primary frequency response capability of its Small Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term "functioning governor or equivalent controls" as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Small Generating Facility's real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ±0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved Electric Reliability Organization reliability standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Small Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based *on* an approved Electric Reliability Organization reliability standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or

equivalent controls is not expected to adjust the Small Generating Facility's real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Small Generating Facility's real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved Electric Reliability Organization reliability standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Provider that the primary frequency response capability of the Small Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Small Generating Facility with the Transmission System, Interconnection Customer shall operate the Small Generating Facility consistent with the provisions specified in Sections 1.8.4.1 and 1.8.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Small Generating Facilities.

1.8.4.1 Governor or Equivalent Controls. Whenever the Small Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Small Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with Transmission Provider and/or the relevant Balancing Authority, set the deadband parameter to: (1) a maximum of ±0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved Electric Reliability Organization reliability standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant Balancing Authority upon request. If Interconnection Customer needs to operate the Small Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Provider and the relevant Balancing Authority, and provide both

with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Small Generating Facility's governor or equivalent controls to a minimum whenever the Small Generating Facility is operated in parallel with the Transmission System.

1.8.4.2 Timely and Sustained Response. Interconnection Customer shall ensure that the Small Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Small Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Small Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

1.8.4.3 Exemptions. Small Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Sections 1.8.4, 1.8.4.1, and 1.8.4.2 of this Agreement. Small Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements

specified in Section 1.8.4, but shall be otherwise exempt from the operating requirements in Sections 1.8.4, 1.8.4.1, 1.8.4.2, and 1.8.4.4 of this Agreement.

1.8.4.4 Electric Storage Resources. Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Attachment 5 of its SGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Sections 1.8.4, 1.8.4.1, 1.8.4.2 and 1.8.4.3 of this Agreement. Attachment 5 shall specify whether the operating range is static or dynamic, and shall consider: (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Provider and Interconnection Customer, and in consultation with the relevant transmission owner or Balancing Authority as appropriate. If the operating range is dynamic, then Attachment 5 must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Section 1.8.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to

discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

1.9 Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 or the body of this Agreement.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection

2.1.1 [The] Interconnection Customer shall test and inspect its Small Generating Facility and Interconnection Facilities prior to interconnection. [The] Interconnection Customer shall notify [the] Transmission Provider of such activities no fewer than five *(5)* Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. Testing and inspection shall occur on a Business Day. [The] Transmission Provider may, at its own expense, send qualified personnel to the Small Generating Facility site to inspect the interconnection and observe the testing. [The] Interconnection Customer shall provide [the] Transmission Provider a written test report when such testing and inspection is completed.

2.1.2 [The] Transmission Provider shall provide [the] Interconnection Customer written acknowledgment that it has received [the] Interconnection Customer's written test report. Such written acknowledgment shall not be deemed to be or construed as any representation, assurance, guarantee, or warranty by [the] Transmission Provider of the safety, durability, suitability, or reliability of the Small Generating Facility or any associated control, protective, and safety devices owned or controlled by [the] Interconnection Customer or the quality of power produced by the Small Generating Facility.

2.2 Authorization Required Prior to Parallel Operation

2.2.1 [The] Transmission Provider shall use Reasonable Efforts to list applicable parallel operation requirements in Attachment 5 of this Agreement. Additionally, [the] Transmission Provider shall notify [the] Interconnection Customer of any changes to these requirements as soon as they are known. [The] Transmission Provider shall make Reasonable Efforts to cooperate with [the] Interconnection Customer in meeting requirements necessary for [the] Interconnection Customer to commence parallel operations by the in-service date.

2.2.2 [The] Interconnection Customer shall not operate its Small Generating Facility in parallel with [the] Transmission Provider's Transmission System without prior written authorization of [the] Transmission Provider. [The] Transmission Provider will provide such authorization once [the] Transmission Provider receives notification that [the] Interconnection Customer has complied with all applicable parallel operation requirements. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

2.3 Right of Access

2.3.1 Upon reasonable notice, [the] Transmission Provider may send a qualified person to the premises of [the] Interconnection Customer at or immediately before the time the Small Generating Facility first produces energy to inspect the interconnection, and observe the commissioning of the Small Generating Facility (including any required testing), startup, and operation for a period of up to three *(3)* Business Days after initial start-up of the unit. In addition, [the] Interconnection Customer shall notify [the] Transmission Provider at least five *(5)* Business Days prior to conducting any on-site verification testing of the Small Generating Facility.

2.3.2 Following the initial inspection process described above, at reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, [the] Transmission Provider shall have access to [the] Interconnection Customer's premises for any reasonable purpose in connection with the performance of the obligations

imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its customers.

2.3.3 Each Party shall be responsible for its own costs associated with following this article.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date

This Agreement shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by the FERC. [The] Transmission Provider shall promptly file this Agreement with the FERC upon execution, if required.

3.2 Term of Agreement

This Agreement shall become effective on the Effective Date and shall remain in effect for a period of ten years from the Effective Date or such other longer period as [the] Interconnection Customer may request and shall be automatically renewed for each successive one-year period thereafter, unless terminated earlier in accordance with article 3.3 of this Agreement.

3.3 Termination

No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this Agreement (if required), which notice has been accepted for filing by FERC.

3.3.1 [The] Interconnection Customer may terminate this Agreement at any time by giving [the] Transmission Provider *twenty (*20*)* Business Days written notice.

3.3.2 Either Party may terminate this Agreement after Default pursuant to article 7.6.

3.3.3 Upon termination of this Agreement, the Small Generating Facility will be disconnected from [the] Transmission Provider's Transmission System. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this SGIA or such non-terminating Party otherwise is responsible for these costs under this SGIA.

3.3.4 The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.5 The provisions of this article shall survive termination or expiration of this Agreement.

3.4 Temporary Disconnection

Temporary disconnection shall continue only for so long as reasonably necessary under Good Utility Practice.

3.4.1 Emergency Conditions – "Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of [the] Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, [the] Transmission Provider's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (3) that, in the case of [the] Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Small Generating Facility or [the] Interconnection Customer's Interconnection Facilities. Under Emergency

Conditions, [the] Transmission Provider may immediately suspend interconnection service and temporarily disconnect the Small Generating Facility. [The] Transmission Provider shall notify [the] Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect [the] Interconnection Customer's operation of the Small Generating Facility. [The] Interconnection Customer shall notify [the] Transmission Provider promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect [the] Transmission Provider's Transmission System or any Affected Systems. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 Routine Maintenance, Construction, and Repair

[The] Transmission Provider may interrupt interconnection service or curtail the output of the Small Generating Facility and temporarily disconnect the Small Generating Facility from [the] Transmission Provider's Transmission System when necessary for routine maintenance, construction, and repairs on [the] Transmission Provider's Transmission System. [The] Transmission Provider shall provide [the] Interconnection Customer with five *(5)* Business Days notice prior to such interruption. [The] Transmission Provider shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with [the] Interconnection Customer.

3.4.3 Forced Outages

During any forced outage, [the] Transmission Provider may suspend interconnection service to effect immediate repairs on [the] Transmission Provider's Transmission System. [The] Transmission Provider shall use Reasonable Efforts to provide [the] Interconnection Customer with prior notice. If prior notice is not given, [the] Transmission Provider shall, upon request, provide [the] Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 Adverse Operating Effects

[The] Transmission Provider shall notify [the] Interconnection Customer as soon as practicable if, based on Good Utility Practice, operation of the Small Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generating Facility could cause damage to [the] Transmission Provider's Transmission System or Affected Systems. Supporting documentation used to reach the decision to disconnect shall be provided to [the] Interconnection Customer upon request. If, after notice, [the] Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, [the] Transmission Provider may disconnect the Small Generating Facility. [The] Transmission Provider shall provide [the] Interconnection Customer with five Business Day notice of such disconnection, unless the provisions of article 3.4.1 apply.

3.4.5 Modification of the Small Generating Facility

[The] Interconnection Customer must receive written authorization from [the] Transmission Provider before making any change to the Small Generating Facility that may have a material impact on the safety or reliability of the Transmission System. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If [the] Interconnection Customer makes such modification without [the] Transmission Provider's prior written authorization, the latter shall have the right to temporarily disconnect the Small Generating Facility.

3.4.6 Reconnection

The Parties shall cooperate with each other to restore the Small Generating Facility, Interconnection Facilities, and [the] Transmission Provider's Transmission System to their normal operating state as soon as reasonably practicable following a temporary disconnection.

Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades

4.1 Interconnection Facilities

4.1.1 [The] Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in Attachment 2 of this Agreement. [The] Transmission Provider shall provide a best estimate cost, including overheads, for the purchase and construction of its Interconnection Facilities and provide a detailed itemization of such costs. Costs associated with Interconnection Facilities may be shared with other entities that may benefit from such facilities by agreement of [the] Interconnection Customer, such other entities, and [the] Transmission Provider.

4.1.2 [The] Interconnection Customer shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its own Interconnection Facilities, and (2) operating, maintaining, repairing, and replacing [the] Transmission Provider's Interconnection Facilities.

4.2 Distribution Upgrades

[The] Transmission Provider shall design, procure, construct, install, and own the Distribution Upgrades described in Attachment 6 of this Agreement. If [the] Transmission Provider and [the] Interconnection Customer agree, [the] Interconnection Customer may construct Distribution Upgrades that are located on land owned by [the] Interconnection Customer. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to [the] Interconnection Customer.

Article 5. Cost Responsibility for Network Upgrades

5.1 Applicability

No portion of this article 5 shall apply unless the interconnection of the Small Generating Facility requires Network Upgrades.

5.2 Network Upgrades

[The] Transmission Provider or the Transmission Owner shall design, procure, construct, install, and own the Network Upgrades described in Attachment 6 of this Agreement. If [the] Transmission Provider and [the] Interconnection Customer agree, [the] Interconnection Customer may construct Network Upgrades that are located on land owned by [the] Interconnection Customer. Unless [the] Transmission Provider elects to pay for Network Upgrades, the actual cost of the Network Upgrades, including overheads, shall be borne initially by [the] Interconnection Customer.

5.2.1 Repayment of Amounts Advanced for Network Upgrades

[The] Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to [the] Transmission Provider and Affected System operator, if any, for Network Upgrades, including any tax gross-up or other tax-related payments associated with the Network Upgrades, and not otherwise refunded to [the] Interconnection Customer, to be paid to [the] Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under [the] Transmission Provider's Tariff and Affected System's Tariff for transmission services with respect to the Small Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 C.F.R. § 35.19a(a)(2)(iii) from the date of any payment for Network Upgrades through the date on which [the] Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. [The] Interconnection Customer may assign such repayment rights to any person.

5.2.1.1 Notwithstanding the foregoing, [the] Interconnection Customer, [the] Transmission Provider, and any applicable Affected System operators may adopt any alternative payment schedule that is mutually agreeable so long as [the] Transmission Provider and said Affected System operators take one of the following actions no later than five years from the Commercial Operation Date: (1) return to [the] Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that [the] Transmission Provider or any applicable Affected System operators will continue to provide payments to [the] Interconnection Customer

on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the commercial operation date.

5.2.1.2 If the Small Generating Facility fails to achieve commercial operation, but it or another generating facility is later constructed and requires use of the Network Upgrades, [the] Transmission Provider and Affected System operator shall at that time reimburse [the] Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, [the] Interconnection Customer, or the entity that ultimately constructs the generating facility, if different, is responsible for identifying the entity to which reimbursement must be made.

5.3 Special Provisions for Affected Systems

Unless [the] Transmission Provider provides, under this Agreement, for the repayment of amounts advanced to any applicable Affected System operators for Network Upgrades, [the] Interconnection Customer and Affected System operator shall enter into an agreement that provides for such repayment. The agreement shall specify the terms governing payments to be made by [the] Interconnection Customer to Affected System operator as well as the repayment by Affected System operator.

5.4 Rights Under Other Agreements

Notwithstanding any other provision of this Agreement, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that [the] Interconnection Customer shall be entitled to, now or in the future, under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission

credits for transmission service that is not associated with the Small Generating Facility.

Article 6. Billing, Payment, Milestones, and Financial Security

6.1 Billing and Payment Procedures and Final Accounting

6.1.1 [The] Transmission Provider shall bill [the] Interconnection Customer for the design, engineering, construction, and procurement costs of Interconnection Facilities and Upgrades contemplated by this Agreement on a monthly basis, or as otherwise agreed by the Parties. [The] Interconnection Customer shall pay each bill within *thirty (*30*)* [c]*C*alendar [d]*D*ays of receipt, or as otherwise agreed to by the Parties.

6.1.2 Within three months of completing the construction and installation of [the] Transmission Provider's Interconnection Facilities and/or Upgrades described in the Attachments to this Agreement, [the] Transmission Provider shall provide [the] Interconnection Customer with a final accounting report of any difference between (1) [the] Interconnection Customer's cost responsibility for the actual cost of such facilities or Upgrades, and (2) [the] Interconnection Customer's previous aggregate payments to [the] Transmission Provider for such facilities or Upgrades. If [the] Interconnection Customer's cost responsibility exceeds its previous aggregate payments, [the] Transmission Provider shall invoice [the] Interconnection Customer for the amount due and [the] Interconnection Customer shall make payment to [the] Transmission Provider within *thirty (*30*)* [c]*C*alendar [d]*D*ays. If [the] Interconnection Customer's previous aggregate payments exceed its cost responsibility under this Agreement, [the] Transmission Provider shall refund to [the] Interconnection Customer an amount equal to the difference within *thirty (*30*)* [c]*C*alendar [d]*D*ays of the final accounting report.

6.2 Milestones

The Parties shall agree on milestones for which each Party is responsible and list them in Attachment 4 of this Agreement. A Party's obligations under this provision may be extended by agreement. If a Party anticipates that it will be unable to meet a milestone for any reason other than a Force Majeure Event, it shall immediately notify the other Party of the reason(s) for not meeting the milestone and (1) propose the earliest reasonable alternate date by which it can attain this and future milestones, and (2) requesting appropriate amendments to Attachment 4. The Party affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless it will suffer significant uncompensated economic or operational harm from the delay, (2) attainment of the same milestone has previously been delayed, or (3) it has reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

6.3 Financial Security Arrangements

At least *twenty (*20*)* Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of [the] Transmission Provider's Interconnection Facilities and Upgrades, [the] Interconnection Customer shall provide [the] Transmission Provider, at [the] Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to [the] Transmission Provider and is consistent with the Uniform Commercial Code of the jurisdiction where the Point of Interconnection is located. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of [the] Transmission Provider's Interconnection Facilities and Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to [the] Transmission Provider under this Agreement during its term. In addition:

6.3.1 The guarantee must be made by an entity that meets the creditworthiness requirements of [the] Transmission Provider, and contain terms and conditions that guarantee payment of any amount that may be due from [the] Interconnection Customer, up to an agreed-to maximum amount.

6.3.2 The letter of credit or surety bond must be issued by a financial institution or insurer reasonably acceptable to [the] Transmission Provider and must specify a reasonable expiration date.

Article 7. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

7.1 Assignment

This Agreement may be assigned by either Party upon *fifteen (*15*)* Business Days prior written notice and opportunity to object by the other Party; provided that:

7.1.1 Either Party may assign this Agreement without the consent of the other Party to any affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement, provided that [the] Interconnection Customer promptly notifies [the] Transmission Provider of any such assignment;

7.1.2 [The] Interconnection Customer shall have the right to assign this Agreement, without the consent of [the] Transmission Provider, for collateral security purposes to aid in providing financing for the Small Generating Facility, provided that [the] Interconnection Customer will promptly notify [the] Transmission Provider of any such assignment.

7.1.3 Any attempted assignment that violates this article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same financial, credit, and insurance obligations as [the] Interconnection Customer. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

7.2 Limitation of Liability

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or

omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages, except as authorized by this Agreement.

7.3 Indemnity

7.3.1 This provision protects each Party from liability incurred to third parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in article 7.2.

7.3.2 The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

7.3.3 If an indemnified person is entitled to indemnification under this article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this article, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

7.3.4 If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

7.3.5 Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

7.4 Consequential Damages

Other than as expressly provided for in this Agreement, neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

7.5 Force Majeure

7.5.1 As used in this article, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party’s control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

7.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party, either in writing or via the telephone, of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party

is taking to mitigate the effects of the event on its performance. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Force Majeure Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of Reasonable Efforts. The Affected Party will use Reasonable Efforts to resume its performance as soon as possible.

7.6 Default

7.6.1 No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except as provided in article 7.6.2, the defaulting Party shall have *sixty (*60*)* [c]*C*alendar [d]*D*ays from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within *sixty (*60*)* [c]*C*alendar [d]*D*ays, the defaulting Party shall commence such cure within *twenty (*20*)* [c]*C*alendar [d]*D*ays after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.

7.6.2 If a Default is not cured as provided in this article, or if a Default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this Agreement.

Article 8. Insurance

8.1 [The] Interconnection Customer shall, at its own expense, maintain in force general liability insurance without any exclusion for liabilities related to the interconnection undertaken pursuant to this Agreement. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. [The] Interconnection Customer shall obtain additional insurance only if necessary as a function of owning and operating a generating facility. Such insurance shall be obtained from an insurance provider authorized to do business in the State where the interconnection is located. Certification that such insurance is in effect shall be provided upon request of [the] Transmission Provider, except that [the] Interconnection Customer shall show proof of insurance to [the] Transmission Provider no later than ten *(10)* Business Days prior to the anticipated commercial operation date. An Interconnection Customer of sufficient credit-worthiness may propose to self-insure for such liabilities, and such a proposal shall not be unreasonably rejected.

8.2 [The] Transmission Provider agrees to maintain general liability insurance or self-insurance consistent with [the] Transmission Provider's commercial practice. Such insurance or self-insurance shall not exclude coverage for [the] Transmission Provider's liabilities undertaken pursuant to this Agreement.

8.3 The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

Article 9. Confidentiality

9.1 Confidential Information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated "Confidential." For purposes of this Agreement all design, operating specifications, and metering data provided by [the] Interconnection

Customer shall be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such.

9.2 Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce this Agreement. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under this Agreement, or to fulfill legal or regulatory requirements.

9.2.1 Each Party shall employ at least the same standard of care to protect Confidential Information obtained from the other Party as it employs to protect its own Confidential Information.

9.2.2 Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.

9.3 Notwithstanding anything in this article to the contrary, and pursuant to 18 CFR § 1b.20, if FERC, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to FERC, within the time provided for in the request for information. In providing the information to FERC, the Party may, consistent with 18 CFR § 388.112, request that the information be treated as confidential and non-public by FERC and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party to this Agreement prior to the release of the Confidential Information to FERC. The Party shall notify the other Party to this Agreement when it is notified by FERC that a request to release Confidential Information has been received by FERC, at which time either of the Parties may

respond before such information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

Article 10. Disputes

10.1 The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this article.

10.2 In the event of a dispute, either Party shall provide the other Party with a written Notice of Dispute. Such Notice shall describe in detail the nature of the dispute.

10.3 If the dispute has not been resolved within two *(2)* Business Days after receipt of the Notice, either Party may contact FERC's Dispute Resolution Service (DRS) for assistance in resolving the dispute.

10.4 The DRS will assist the Parties in either resolving their dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the Parties in resolving their dispute. DRS can be reached at 1-877-337-2237 or via the internet at http://www.ferc.gov/legal/adr.asp.

10.5 Each Party agrees to conduct all negotiations in good faith and will be responsible for one-half of any costs paid to neutral third-parties.

10.6 If neither Party elects to seek assistance from the DRS, or if the attempted dispute resolution fails, then either Party may exercise whatever rights and remedies it may have in equity or law consistent with the terms of this Agreement.

Article 11. Taxes

11.1 The Parties agree to follow all applicable tax laws and regulations, consistent with FERC policy and Internal Revenue Service requirements.

11.2 Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this Agreement is intended to adversely affect [the] Transmission Provider's tax exempt status with respect to the issuance of bonds including, but not limited to, local furnishing bonds.

Article 12. Miscellaneous

12.1 Governing Law, Regulatory Authority, and Rules
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of _____ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

12.2 Amendment
The Parties may amend this Agreement by a written instrument duly executed by both Parties, or under article 12.12 of this Agreement.

12.3 No Third-Party Beneficiaries
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

12.4 Waiver

12.4.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

12.4.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of [the] Interconnection Customer's legal rights to obtain an interconnection from [the] Transmission Provider. Any waiver of this Agreement shall, if requested, be provided in writing.

12.5 Entire Agreement

This Agreement, including all Attachments, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement.

12.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

12.7 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

12.8 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

12.9 Security Arrangements

Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. FERC expects all Transmission Providers, market participants, and Interconnection Customers interconnected to electric systems to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

12.10 Environmental Releases

Each Party shall notify the other Party, first orally and then in writing, of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Small Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Party copies of any publicly available reports filed with any governmental authorities addressing such events.

12.11 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this

Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

12.11.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall [the] Transmission Provider be liable for the actions or inactions of [the] Interconnection Customer or its subcontractors with respect to obligations of [the] Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

12.11.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

12.12 Reservation of Rights

[The] Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and [the] Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

Article 13. Notices

13.1 General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national currier service, or sent by first class mail, postage prepaid, to the person specified below:

If to [the] Interconnection Customer:

Interconnection Customer:

_____

Attention: _____

Address:

_____

City: _____ State:_____ Zip:_____

Phone: _____ Fax: _____

If to [the] Transmission Provider:

Transmission Provider:

_____

Attention: _____

Address:

_____

City: _____ State:_____ Zip:_____

Phone: _____ Fax: _____

13.2 Billing and Payment
Billings and payments shall be sent to the addresses set out below:

Interconnection Customer: _____

Attention: _____

Address:

_____

City: _____ State:_____
Zip:_____

Transmission Provider:

_____

Attention: _____

Address:

_____

City: _____ State:_____
Zip:_____

13.3 Alternative Forms of Notice
Any notice or request required or permitted to be given by either Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out below:

If to [the] Interconnection Customer:

Interconnection Customer:

_____

Attention: _____

Address:

_____

City: _____ State:_____ Zip:_____

Phone: _____ Fax: _____

If to [the] Transmission Provider:

Transmission Provider:

_____

Attention: _____

Address:

_____

City: _____ State:_____ Zip:_____

Phone: _____ Fax: _____

13.4 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

Interconnection Customer's Operating Representative:

Interconnection Customer:

_____

Attention: _____

Address:
_____

City: _____ State:_____
Zip:_____

Phone: _____ Fax: _____

Transmission Provider's Operating Representative:

Transmission Provider:
_____

Attention: _____

Address:
_____

City: _____ State:_____
Zip:_____

Phone: _____ Fax: _____

13.5 Changes to the Notice Information
Either Party may change this information by giving five *(5)* Business Days written notice prior to the effective date of the change.

Article 14. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For [the] Transmission Provider

Name:_____

Title: _____

Date: _____

For [the] Interconnection Customer

Name:_____

Title: _____

Date: _____

Attachment 1

Glossary of Terms

Affected System – An electric system other than [the] Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Applicable Laws and Regulations – All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Standards *- The requirements and guidelines of the Electric Reliability Organization and the Balancing Authority Area of the Transmission System to which the Generating Facility is directly interconnected.*

Balancing Authority [shall mean] – [a]*A*n entity that integrates resource plans ahead of time, maintains demand and resource balance within a Balancing Authority Area, and supports interconnection frequency in real time.

Balancing Authority Area [shall mean] – [t]*T*he collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

Business Day – Monday through Friday, excluding Federal Holidays.

Default – The failure of a breaching Party to cure its breach under the Small Generator Interconnection Agreement.

Distribution System – [The] Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

Distribution Upgrades – The additions, modifications, and upgrades to [the] Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Small Generating Facility and render the transmission service necessary to effect [the] Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Good Utility Practice – Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority – Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include [the] Interconnection Customer, the Interconnection Provider, or any Affiliate thereof.

Interconnection Customer – Any entity, including [the] Transmission Provider, the Transmission Owner or any of the affiliates or subsidiaries of either, that proposes to interconnect its Small Generating Facility with [the] Transmission Provider's Transmission System.

Interconnection Facilities – [The] Transmission Provider's Interconnection Facilities and [the] Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to [the] Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

Interconnection Request – [The] Interconnection Customer's request, in accordance with the Tariff, to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Small Generating Facility that is interconnected with [the] Transmission Provider's Transmission System.

Material Modification – A modification that has a material impact on the cost or timing of any Interconnection Request with a later queue priority date.

Network Upgrades – Additions, modifications, and upgrades to [the] Transmission Provider's Transmission System required at or beyond the point at which the Small Generating Facility interconnects with [the] Transmission Provider's Transmission

System to accommodate the interconnection of the Small Generating Facility with [the] Transmission Provider's Transmission System. Network Upgrades do not include Distribution Upgrades.

Operating Requirements – Any operating and technical requirements that may be applicable due to Regional Transmission Organization, Independent System Operator, Balancing Authority Area, or Transmission Provider's requirements, including those set forth in the Small Generator Interconnection Agreement.

Party or Parties – [The] Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Point of Interconnection – The point where the Interconnection Facilities connect with [the] Transmission Provider's Transmission System.

Reasonable Efforts – With respect to an action required to be attempted or taken by a Party under the Small Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Small Generating Facility – [The] Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include [the] Interconnection Customer's Interconnection Facilities.

Tariff – [The] Transmission Provider or Affected System's Tariff through which open access transmission service and Interconnection Service are offered, as filed with the FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner – The entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Small Generator Interconnection Agreement to the extent necessary.

Transmission Provider – The public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from [the] Transmission Provider.

Transmission System – The facilities owned, controlled or operated by [the] Transmission Provider or the Transmission Owner that are used to provide transmission service under the Tariff.

Upgrades – The required additions and modifications to [the] Transmission Provider's Transmission System at or beyond the Point of Interconnection. Upgrades may be

Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

Docket No. RM22-14-001

Attachment 2

Description and Costs of the Small Generating Facility, Interconnection Facilities, and Metering Equipment

Equipment, including the Small Generating Facility, Interconnection Facilities, and metering equipment shall be itemized and identified as being owned by [the] Interconnection Customer, [the] Transmission Provider, or the Transmission Owner. [The] Transmission Provider will provide a best estimate itemized cost, including overheads, of its Interconnection Facilities and metering equipment, and a best estimate itemized cost of the annual operation and maintenance expenses associated with its Interconnection Facilities and metering equipment.

Docket No. RM22-14-001

Attachment 3

One-line Diagram Depicting the Small Generating Facility, Interconnection Facilities, Metering Equipment, and Upgrades

Docket No. RM22-14-001

Attachment 4

Milestones

In-Service Date: _____

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	**Responsible Party**
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____
(4)	_____	_____
(5)	_____	_____
(6)	_____	_____
(7)	_____	_____

(8) _____ _____

(9) _____ _____

(10) _____ _____

Agreed to by:

For [the] Transmission Provider_____ Date_____

For [the] Transmission Owner (If Applicable) _____
Date_____

For [the] Interconnection Customer_____ Date_____

Docket No. RM22-14-001

Attachment 5

Additional Operating Requirements for [the] Transmission Provider's Transmission System and Affected Systems Needed to Support [the] Interconnection Customer's Needs

[The] Transmission Provider shall also provide requirements that must be met by [the] Interconnection Customer prior to initiating parallel operation with [the] Transmission Provider's Transmission System.

Docket No. RM22-14-001

Attachment 6

Transmission Provider's Description of its Upgrades

and Best Estimate of Upgrade Costs

[The] Transmission Provider shall describe Upgrades and provide an itemized best estimate of the cost, including overheads, of the Upgrades and annual operation and maintenance expenses associated with such Upgrades. [The] Transmission Provider shall functionalize Upgrade costs and annual expenses as either transmission or distribution related.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Improvements to Generator Interconnection Procedures and Agreements — Docket No. RM22-14-001

(Issued March 21, 2024)

CHRISTIE, Commissioner, *concurring*:

1. I concur with Order No. 2023-A,[1] which largely sustains the findings and determinations of its predecessor, Order No. 2023. I write separately to highlight two issues in the order, which I previously discussed in my concurrence to Order No. 2023.[2]

I. Enumerated Alternative Transmission Technologies (Section II.E.2.a.iii)

2. Order No. 2023-A sustains the determination in Order No. 2023 that transmission providers have the sole discretion in determining whether to use an alternative transmission technology, or grid-enhancing technology (GET), in the interconnection process. As I explained in my concurrence to Order No. 2023:

> A GET may hold the potential of squeezing more juice – literally – out of the existing transmission grid. By increasing the capacity of the existing grid, a GET could reduce or even eliminate the need for the future construction of new transmission assets. So the potential for cost-savings from

[1] *Improvements to Generator Interconnection Procedures and Agreements*, Order No. 2023-A, 186 FERC ¶ 61,199 (2024).

[2] *Improvements to Generator Interconnection Procedures and Agreements*, Order No. 2023, 88 FR 61014 (Sept. 6, 2023), 184 FERC ¶ 61,054 (2023) (Christie, Comm'r, concurring at P 1) (Order No. 2023 Concurrence), https://www.ferc.gov/news-events/news/e-1-commissioner-christie-concurrence-order-no-2023-interconnection-final-rule.

the use of GETs is too important to ignore.[3]

I emphasized, however, that GETs are *operational* applications, which should be deployed *when and where their efficacy can be proven*, and should not be mandated as planning assumptions or as potential substitutes for network upgrades caused by interconnection requests.[4] I also noted the different financial incentives at play: transmission owners will typically favor the construction of costly new transmission assets over deploying GETs, whereas companies who sell GETs and generation developers—particularly those in RTOs/ISOs that use participant funding to pay for the costs of network upgrades caused by the interconnecting customers—want GETs to be mandated.[5] Therefore, it was crucial to strike the right balance in the order.[6]

3. And Order No. 2023 did just that. Order No. 2023 required the evaluation of certain listed GETs in the interconnection studies process but did not require that a GET must be deployed as an alternative to a necessary network upgrade.[7] Further, and most importantly, Order No. 2023 made clear that the determination in each case was to be made at the *sole* discretion of the transmission provider (i.e., RTO/ISOs or non-RTO transmission providers).[8] This is crucial because transmission providers are responsible for resolving the reliability issues caused by a particular interconnection, and there is a risk that a GET could fail, prompting a later, potentially more costly, network upgrade.[9] And, of course, for that subsequent reliability upgrade, consumers would likely get stuck with the bill, not the generation developer.

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[3] *Id.* P 2.

[4] *Id.* P 5 (footnote omitted).

[5] *Id.* PP 6-7.

[6] *Id.* P 8.

[7] *Id.* P 9.

[8] *Id.* P 10.

[9] *Id.* P 11.

4. Order No. 2023-A rightly sustains the discretion that Order No. 2023 affords transmission providers in determining whether to use a GET. This level of discretion continues to be justified because:

> (1) the transmission provider is responsible for determining whether using any of the enumerated alternative transmission technologies is an appropriate and reliable network upgrade that allows the interconnection customer to flow the output of its generating facility onto the transmission provider's transmission system in a safe and reliable manner; (2) the requirement to make such a determination before allowing for the use of the enumerated alternative transmission technologies addresses concerns that their use may impinge on reliability, delay network upgrades instead of reducing the need for them or obviating the need for them altogether, or fail to address all transmission system issues that a traditional network upgrade would address; and (3) there is a need to avoid time-consuming delays and costly disputes or litigation over interconnection costs that could arise as a result of this reform.[10]

Order No. 2023-A also clarifies that transmission providers must explain their evaluation of GETs for feasibility, cost, and time savings as an alternative to a traditional network upgrade in their applicable study report(s), and their use determinations must be consistent with good utility practice, applicable reliability standards, and applicable laws and regulations.[11] Thus, as I observed, Order No. 2023 "strikes the appropriate balance between requiring the evaluation of GETs, but not mandating the use of a GET in specific cases unless the transmission provider – and *only the transmission provider* – determines it would work from a real-world applicability standpoint."[12] And Order No. 2023-A preserves that balance.

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[10] Order No. 2023-A, 186 FERC ¶ 61,199 at P 618 (citations omitted).

[11] *Id.* P 619 (citation omitted); *see also id.* PP 626-627.

[12] Order No. 2023 Concurrence at P 12 (emphasis added).

II. Inappropriate Allocation of Certain Costs to Consumers

5. I remain concerned that study delay penalties on RTOs/ISOs and the costs of transmission provider heatmaps used as a tool for interconnection customers will be inappropriately allocated to consumers even though they both appear to provide much more of a benefit to generation developers than consumers.[13] I address each in turn.

A. Study Delay Penalties on RTO/ISOs (Section II.D.1.c.iii)

6. Order No. 2023-A sustains the imposition of penalties on transmission providers who miss study deadlines. As I expressed in my Order No. 2023 Concurrence, I have concerns about assessing study penalties on RTOs/ISOs, which are not-for-profit entities with no stockholders.[14]

7. Order No. 2023 left open the question of how RTOs/ISOs will recover those study delay penalties that are not automatically imposed on a transmission-owning member by explaining that RTOs/ISOs may submit an FPA section 205 filing to propose a cost recovery scheme for these penalties.[15] Unfortunately, Order No. 2023-A continues to punt this question, stating that it will address any future RTO/ISO section 205 proposal to recover the costs of study delay penalties on case-by-case basis.[16] I urge that any such RTO/ISO filing make protections to consumers paramount. In any scenario, the costs of penalties should not be imposed on retail customers, for the obvious reason they are not the cause of the penalties. I would add that the fact that Order No. 2023-A still fails to answer the fundamental question of "who pays?" illustrates the legal and policy flaws in the penalty scheme as applied to RTOs/ISOs. No doubt we will continue to hear more about this issue.

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[13] *Id.* P 17.

[14] *Id.* P 18.

[15] *Id.* P 20.

[16] Order No. 2023-A, 186 FERC ¶ 61,199 at P 465 (citation omitted).

B. Cost of Heatmap (Section II.C.1.c)

8. In addition, although I support the heatmap requirement, I remain concerned over its potential funding through transmission rates.[17] Order No. 2023-A sustains the determination that transmission providers must bear the costs associated with their heatmaps or recover them through transmission rates to the extent they are recoverable consistent with Commission accounting and ratemaking policy, finding that interconnection customers are not the sole or primary beneficiaries of the heatmap requirement.[18]

9. I agree with this rationale only with respect to those regions in which transmission providers which do not use participant funding—*i.e.*, in those regions where the transmission provider's load ultimately reimburses (or more accurately, subsidizes) interconnection customers for their interconnection costs. As heatmaps serve to identify viable points of interconnection and improve queue efficiency, they help to reduce interconnection costs. Thus, *ceteris paribus*, heatmaps will indirectly reduce the magnitude of the reimbursements of interconnection costs paid by load to interconnection customers.

10. On the other hand, in regions in which the transmission provider uses participant funding—such as in PJM and MISO—I fail to see how interconnection customers are not the sole or primary beneficiaries of the heatmap requirement. In those regions, as interconnection customers are ultimately responsible for interconnection costs—with the exception of MISO's (questionable, in my opinion) assignment to load of 10% of the cost of network upgrades 345 kV and above—the savings that heatmaps provide would inure to generation developers. I question, therefore, whether the recovery of the cost of heatmaps from load in those regions would be just and reasonable. As I stated in my Order No. 2023 Concurrence:

> Commission policy may dictate that interconnection queue efficiency benefits transmission customers; however, that should not result in the costs of a requirement that best benefits interconnection customers, and really *prospective* interconnection customers that may ultimately not seek to

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[17] Order No. 2023 Concurrence at PP 21-22.

[18] Order No. 2023-A, 186 FERC ¶ 61,199 at P 106.

> interconnect, being recovered from *consumers* through transmission rates *carte blanche*.[19]

For these reasons, I concur.

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Mark C. Christie
Commissioner

[19] Order No. 2023 Concurrence at P 22 (emphasis in original).