Troutman Pepper Summary of FERC Order No. 2023 on Generator Interconnection Reform

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EXECUTIVE SUMMARY

On July 28, the Federal Energy Regulatory Commission (FERC or the Commission) issued Order No. 2023 (Order No. 2023 or Final Rule), which updates the procedures for interconnecting large generating facilities (20MW and above) and small generating facilities (under 20MW). As FERC explained in the Final Rule, the adopted reforms are intended to address interconnection queue backlogs, improve certainty in the interconnection process, and prevent undue discrimination for new technologies.

Order No. 2023 adopts a series of mandatory reforms in an attempt to bring uniformity to interconnections across the country. The most significant change is the move away from FERC's historic "first come, first served" serial approach to interconnections in favor of a "first ***ready***, first served" cluster study approach that requires generators to demonstrate commercial readiness to proceed through the queue.

Compliance Filings are due within 90 days of the Final Rule's publication in the Federal Register. Transmission providers proposing deviations from the Final Rule in their compliance filings must demonstrate that their deviations are "consistent with or superior to" standard (for non-RTO/ISO providers) or satisfy the "independent entity variation" standard (for RTOs/ISOs).

Summary of Key Reforms:

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

- **Facilitating Interconnection Information Access:**
  - Informational Study: The Final Rule does not require transmission providers to offer informational interconnection studies.
  - Heatmap: Transmission providers must maintain a publicly available visual representation (a heatmap) of available transmission capacity. The heatmap is not required to be publicly available until after the transition period.
- **Cluster Study Process:**
  - Timelines: FERC adopted a single-phase 150-day cluster study process (exclusive of the Facilities and Affected Systems studies), preceded by a 45-calendar day Customer Request Window and 60-calendar day Customer Engagement Window (extended from the Notice of Proposed Rulemaking (NOPR) proposal of 30 days); individual scoping meetings are not required, only a single group scoping meeting.
  - Restudies: Restudies are permitted in the event of higher- or equally queued withdrawals or modifications (certain modifications remain permissible regardless of impact); FERC otherwise declined to set limits on the number of allowable restudies per month.

- **Allocating Cluster Study Costs:**
  - Transmission providers may allocate between 10% and 50% of study costs on a per capita basis, with the remainder (between 90% and 50%) allocated pro rata by MW to members of the cluster.
- **Allocating Cluster Network Upgrade Costs:**
  - Network Upgrade costs are to be allocated based on a "proportional impact" (distribution factor) method so that each generator pays according to its contribution to the need for the upgrade, except that shared upgrades at substations must be allocated on a per capita basis to all interconnection customers interconnecting to the substation.
  - Customers sharing interconnection facilities may mutually agree to a per capita, or other, cost sharing arrangement.
- **Shared Network Upgrades:**
  - Transmission providers will not be required to allocate the costs of Network Upgrades shared by earlier and later clusters.
- **Increased Financial Commitments and Commercial Readiness Requirements:**
  - Study Deposits: Multiple deposits are not required, only a single deposit based on MW size of proposed generating facility.
  - Site Control: 90% of site control will be required at the interconnection request stage, with 100% required by Facilities Study agreement execution; no deposit will be permitted except for demonstration of "Regulatory" (federal, state, Tribal, or local law making it infeasible to otherwise timely obtain Site Control).
  - Commercial Readiness: No nonfinancial readiness demonstrations required, only financial deposits; transmission providers may adopt nonfinancial demonstrations if a variation is justified; Large Generator Interconnection Agreement (LGIA) deposit will be 20% of estimated Network Upgrade costs (rather than nine times the study deposit) and will be credited toward Network Upgrade costs.
  - Withdrawal Penalties: Unless exceptions apply, customers will face increasing penalties based on study costs (for withdrawals before cluster restudy) or Network Upgrade cost estimate increases (for later withdrawals); distributed penalties pay first for the cluster's study, then for any Network Upgrades for the cluster, then refunded.
- **Transition Process:**
  - Transmission providers must offer three options: (1) transitional serial study for customers with a tendered Facilities Study agreement; (2) transitional cluster study; (3) withdrawal from the queue without penalty (at the outset; withdrawal penalty would apply after transition process commences).
  - Transmission providers with cluster studies, or transition plans, in progress do not need a new transition process.

B. Reforms to Increase the Speed of Interconnection Queue Processing

- **Elimination of the Reasonable Efforts Standard in Favor of Penalties for Delayed Studies:**
  - FERC adopted the NOPR proposal to eliminate the Reasonable Efforts standard governing the transmission provider's duty to timely complete cluster studies, cluster restudies, facilities studies, and affected system studies. Instead, FERC will impose financial penalties on transmission providers who fail to meet study deadlines.
  - Penalties (each subject to cap of 100% of study deposits collected): $1,000 per business day for delayed cluster studies; $2,000 per business day for delayed cluster restudies and affected system

studies; $2,500 per business day for delayed facilities studies. Instead, FERC instituted penalties for late studies, as follows:

- Penalty Relief: (1) penalty provisions don't apply until third cluster cycle; (2) no penalties if delay is corrected within 10 business days; (3) deadlines can be extended up to 30 business days by mutual agreement of cluster participants; (4) transmission providers can appeal penalty charges to FERC, arguing good cause to grant relief (customer-caused delay "would represent a potentially compelling basis for…good cause").

- **Coordination with Affected Systems:**
  - FERC adopted, with modifications, the NOPR's "affected system" coordination provisions, including a new *pro forma* affected system study agreement, *pro forma* affected system construction agreement.
  - Affected system transmission providers will be required to reimburse affected system interconnection customers for the costs of affected system Network Upgrades.
- **Optional Resource Solicitation Study:**
  - FERC declined to adopt this proposed NOPR reform.

C. Reforms to Incorporate Technological Advancements into the Interconnection Process

- **Increasing Flexibility in the Generator Interconnection Process:**
  - Co-Located Resources: FERC adopted (and revised) the NOPR proposal to require transmission providers to allow more than one generating facility to co-locate behind the same point of interconnection (POI) and to share an interconnection request, if desired by the generating facilities; a single request for multiple generating facilities must share the same POI.
  - Generating Facility Additions: FERC adopted the NOPR proposal, with modifications, to require evaluation of generating facility additions (*e.g.* storage) provided that (1) the addition is requested before submitting the executed facilities study agreement, and (2) the originally requested interconnection service level would be unchanged.
  - Availability of Surplus Service: FERC adopted the NOPR proposal to allow interconnection customers to access surplus service only once the original interconnection customer has executed the LGIA or requested the filing of an unexecuted LGIA.
  - Incorporating Operating Assumptions for Storage Resources:
    - FERC adopted the NOPR proposal (with some modifications) to require transmission providers, upon request by an interconnection customer, to use operating assumptions that reflect the proposed charging behavior of electric storage resources (whether standalone, co-located, or hybrid).
    - This reform does not require transmission providers to study charging as part of the interconnection process if they do not already do so (*e.g.* for transmission providers that study charging in the transmission service context).
- **Incorporating Alternative Transmission Technologies Into the Process:**
  - FERC adopted, with modifications, the NOPR proposal to require transmission providers to evaluate the following 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.
  - Transmission providers must evaluate these in the cluster process regardless of whether a customer requests.
  - Similar changes were adopted for the *pro forma* Small Generator Interconnection Procedures (SGIP).

- FERC declined to adopt its NOPR proposal that would have required transmission providers to submit an annual information report on the list of alternative technologies considered.

- **Modeling and Ride-Through Requirements for Nonsynchronous Generating Facilities:**
  - Modeling: FERC adopted the NOPR proposal to require interconnection customers interconnecting nonsynchronous generating facilities to submit as part of their request: (1) a validated user-defined 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 WECC; and (3) a validated EMT model, if the transmission provider performs an EMT study as part of the interconnection study process.
  - Ride-Through: FERC adopted reforms that would: (1) obligate large and small generating facilities to ride-through, to the extent physically possible, abnormal frequency and voltage conditions with the "no trip zone" defined by NERC reliability Standard PRC-024-3; and (2) require that all newly interconnecting large generating facilities provide frequency and voltage ride through capability consistent with standards applicable to other generating facilities in the balancing authority area.

Compliance Procedures:

- The Final Rule is effective 60 days after publication in the *Federal Register*; however, each transmission provider's specific tariff revisions will not become effective until the Commission-approved effective date.
- Compliance filings are due within 90 calendar days of the Final Order's publication in the *Federal Register*.
- Transmission providers proposing deviations from the Final Rule will be held to the "consistent with or superior to" standard (for non-RTO/ISO providers) and "independent entity variation" standard for RTOs/ISOs.
- FERC rejected arguments that existing transmission provider reforms already meet the requirements of the rule or that FPA Section 206 requires individualized findings for each transmission provider; rather, such transmission providers must still justify deviations under the above-noted standards.

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For a copy of FERC's Order No. 2023, please click here.

I. INTRODUCTION

A. Historical Framework: Order Nos. 2003, 2006, and 845

The Commission (FERC or the Commission) first issued standard interconnection procedures and agreements for large and small generators in Order Nos. 2003 and 2006, respectively.[1] The next set of significant revisions to the *pro forma* LGIP would not come for another 15 years after Order No. 2003 was issued. Specifically, in 2018, the Commission issued Order No. 845 to revise the *pro forma* LGIP and *pro forma* LGIA to institute various reforms intended to enhance the interconnection process, account for changing technologies, and facilitate additional generator interconnections.[2] Since the issuance of Order Nos. 2003, 2006, and 845, however, the electric sector has transformed, presenting difficult challenges interconnecting new resources to the transmission system, and contributing to significant interconnection queue backlogs.[3]

B. Advance Notice of Proposed Rulemaking and Notice of Proposed Rulemaking

Following an Advance Notice of Proposed Rulemaking on July 15, 2021, on June 16, 2022, the Commission issued a NOPR focused on updating procedures for interconnecting large generating facilities (20MW and above) and small generating facilities (under 20MW).[4] The NOPR proposed various reforms to the large and small generator interconnection procedures and agreements.[5] Specifically, the Commission proposed reforms to (1) implement a first-ready, first-served cluster study process;[6] (2) increase the speed of interconnection queue processing;[7] and (3) incorporate technological advancements into the interconnection process.[8] The Commission proposed reforms for small generators to incorporate alternative transmission technologies into the interconnection process and provide modeling and performance requirements for nonsynchronous generators.[9]

II. OVERALL NEED FOR REFORM

The Final Rule largely adopted the preliminary findings in the NOPR. The Final Rule concluded that the revisions are necessary to ensure rates are just, reasonable, and not unduly discriminatory or preferential.[10] The Final Rule found that the existing *pro forma* generator interconnection procedures and agreements are unjust, unreasonable, and unduly discriminatory or preferential.[11] Specifically, the Commission found that without reform, the existing process would continue to cause interconnection queue backlogs, uncertainty regarding costs, and longer development times.[12]

The Final Rule noted that data indicates that interconnection customers wait longer in the interconnection queue before withdrawing their interconnection requests and that delays are a major factor in backlogs.[13] The Final Rule also noted that, consistent with the NOPR, the increasing volume of interconnection requests is driven by factors such as a rapidly changing resource mix, market forces, and emerging technologies.[14] Moreover, the Commission noted that efficient interconnection queues reduce wholesale electricity costs.[15]

The Final Rule found that the need to reform the existing *pro forma* LGIP, *pro forma* (LGIA, *pro forma* SGIP, and *pro forma* Small Generator Interconnection Agreement (SGIA) is based on several factors. First, FERC argued that the existing *pro forma* generator interconnection procedures and agreements lack a process for interconnection customers to obtain information about potential interconnection costs before submitting a request.[16] Second, the existing serial first-come, first-served study process in the *pro forma* LGIP encourages speculative interconnection requests that lead to delays and backlogs.[17] Third, transmission providers have limited incentive to perform interconnection studies in a timely manner, furthering the interconnection queue backlogs and delays. [18] Fourth, the Final Rule found a lack of requirements for how and when transmission providers should complete affected systems studies.[19] Fifth, the Commission's *pro*

forma LGIP failed to accommodate the operating characteristics and technical capabilities of electric storage resources.[20] Finally, the Commission's *pro forma* LGIP and *pro forma* SGIP failed to require the consideration of alternative transmission technologies.[21] The adopted reforms aim to ensure just, reasonable, and not unduly discriminatory or preferential rates by improving the efficiency of study processes and reducing interconnection queue backlogs.[22]

III. REFORMS

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

1. Interconnection Information Access

a. Declined to Adopt the Informational Interconnection Study

The Final Rule declined to adopt the NOPR proposal to modify the *pro forma* LGIP to require transmission providers to offer an informational interconnection study for prospective interconnection customers.[23] The Final Rule noted that requiring an informational interconnection study would result in an additional burden for transmission providers and deter divert resources from cluster studies, undermining the benefits of cluster studies.[24] Moreover, the Final Rule found that the proposed interconnection study would provide an analysis of the impact of a single interconnection request at a specific moment in time.[25] However, when considered in the context of the subsequent cluster study, the actual impact would be different, thus, providing minimal value. [26]

b. Adoption of Public Interconnection Information Requirements

The Final Rule adopted, the NOPR proposal to require transmission providers to maintain and make publicly available an interactive visual representation of available interconnection capacity, as well as a table of relevant interconnection metrics that allows prospective interconnection customers to see certain estimates of a potential generating facility's effect on the transmission provider's transmission system.[27]

Specifically, the Final Rule adopted the NOPR proposal to require transmission providers to develop a heatmap of estimated incremental injection capacity (in MW) available at each bus in the transmission provider's footprint under N-1 conditions and provide a table of results showing the estimated impact of the addition of a proposed project for each monitored facility impacted by the proposed project. [28] The Final Rule noted that the advantages of providing greater transparency to interconnection customers about potential points of interconnection outweigh the administrative burden to transmission providers.[29] Moreover, providing prospective interconnection customers with the information will allow the customer to better assess the viability of their proposed generating facility before submitting their request.[30] The Final Rule also stated that the public interconnection requirements adopted will provide transparency but will not provide cost certainty because they will remain nonbinding.[31]

Additionally, the Final Rule requires that the information be updated within 30 days after each cluster study or restudy, not on a cycle of every 30 calendar days.[32] The Final Rule clarified that the heatmap is not required until after the transition period.[33] The Final Rule also clarified that transmission providers must only provide updates for anything that has changed in the most recent study or restudy after the first cluster study, following the Commission-approved effective date of the transmission provider's filing in compliance with the Final Rule.[34]

Furthermore, the Final Rule adopted the scope of the heatmap requirement proposed in the NOPR, which was the amount of point of interconnection-level interconnection capacity available to be injected at each point of interconnection.[35] The Final Rule clarified that transmission providers, not interconnection providers, are responsible for paying the costs of posting the heatmaps.[36] However, the Final Rule noted that if the

costs are recoverable in transmission rates, the rate treatment is appropriate and not precluded by the Final Rule.[37]

2. Cluster Study Process

a. Adoption of Cluster Studies Rather Than a Serial Study Process

FERC adopted the NOPR proposal to adopt a cluster study-based interconnection process.[38] FERC explained that using cluster studies would improve the interconnection process by, among other things: increasing efficiencies, providing greater certainty to interconnection customers, and disincentivizing speculative requests.[39] FERC also stated its expectation that the cluster study process would result in fewer withdrawals and minimize the risk of cascading restudies that can occur when an interconnection customer withdraws.[40]

FERC emphasized that the reforms to the *pro forma* LGIP do not prescribe how transmission providers should form clusters (*e.g.,* cluster areas), and encouraged state entities to consider the efficient coordination of state-jurisdictional interconnection process with the FERC-jurisdictional process.[41]

b. Defined Terms in the Pro Forma LGIP and Pro Forma LGIA to Implement the Cluster Study Process

FERC adopted its proposal to add several new defined terms (such as cluster, cluster study process, and cluster request window) and to revise several defined terms (such as stand alone Network Upgrade and material modification) to Section 1 of the *pro forma* LGIP and article 1 of the *pro forma* LGIA.[42] FERC highlighted its revisions to the definition of stand-alone Network Upgrade, explaining that such upgrades must be required for only one interconnection customer and must meet the other existing requirements in the definition of stand-alone Network Upgrade.[43] FERC also made clear that this change does not remove the right established in Order No. 845 to self-build interconnection facilities and stand-alone Network Upgrades and clarified that the option to build a stand-alone Network Upgrade is only available for a single interconnection customer.[44]

FERC also adopted the proposed revisions to adapt the definition of material modification to the cluster process, and added a definition for "interconnection facilities study report."[45]

c. Requirement to Select a Definitive Point of Interconnection

FERC adopted changes to Section 3.1.2 of the *pro forma* LGIP to require interconnection customers to select a definitive point of interconnection to be studied when executing the cluster study agreement.[46] FERC explained that this would allow interconnection customers to submit interconnection requests with a proposed point of interconnection and receive feedback on the proposal from the transmission provider during the scoping meeting before selecting the definitive point of interconnection.[47]

FERC declined to:

- Require that the definitive point of interconnection be selected earlier, *e.g.*, as part of the interconnection request;
- Require that the definition point of interconnection be selected later, *e.g.*, at the facilities study phase; or
- Permit interconnection customers to submit multiple alternative points of interconnection in a single interconnection request.[48]

d. Adoption of a Cluster Request Window and Customer Engagement Window

Cluster Request Window

FERC adopted a 45-calendar day, annual cluster request window (the start date to be determined by each transmission provider) in which interconnection customers will be required to submit an interconnection request along with a $5,000 nonrefundable application fee.[49] FERC declined requests to adopt biannual or quarterly cluster study windows,[50] and also declined requests to prohibit transmission providers from conducting overlapping cluster studies.[51]

FERC also required interconnection customers to provide any requested information within 10 business days of receiving an interconnection request deficiency notice but no later than the close of the cluster request window.[52] FERC explained that if an interconnection customer does not respond before the deadline: (1) the interconnection request is immediately deemed withdrawn, without the cure period provided under LGIP Section 3.7; (2) the application fee is forfeited to the transmission provider; and (3) the study deposit and commercial readiness deposit are returned to the interconnection customer.[53]

Customer Engagement Window

FERC adopted a 60-day cluster engagement window for the new *pro forma* cluster study process.[54] Interconnection requests deemed valid at the end of the customer engagement window and that have executed a cluster study agreement will be included in the cluster study.[55] Any interconnection requests not deemed valid at the close of the customer engagement window will not be included in the cluster.[56]

FERC also retained its proposal for transmission providers to post anonymized cluster information on OASIS within the first 10 business days of the customer engagement window.[57] FERC explained that the cluster information should include the details of each interconnection request for that cluster, including information on the amount of interconnection service and the location of the proposed generating facility.[58] In response to comments on the NOPR, FERC also required that the posting does not reveal the identity or commercial information of interconnection customers in order to maintain confidentiality during the customer engagement window stage.[59] FERC concluded that this information may help interconnection customers determine the viability of their proposed facilities and reduce the likelihood of withdrawal later in the study process.[60]

e. Clusterwide Scoping Meeting

FERC adopted the NOPR proposal to require transmission providers to hold a scoping meeting with all interconnection customers whose valid interconnection requests were received in that cluster request window.[61] FERC did not adopt the NOPR proposal to require transmission providers to hold customer-specific scoping meetings.[62] In response to comments on the NOPR, FERC also modified Section 3.4.6 to require that transmission providers use nondisclosure agreements to maintain confidentiality in the group scoping meeting until the close of the customer engagement window.[63]

f. Posting Metrics for Cluster Study Processing Time and Restudy Processing Time

FERC adopted the proposal to require transmission providers to post metrics for cluster study and restudy processing time, including the number of interconnection requests that had cluster studies completed within 150 calendar days of the close of the customer engagement window.[64] FERC also clarified that cluster study processing time should be measured from the close of the customer engagement window, and that cluster restudy processing time should be measured from when the transmission provider notifies interconnection customers that a restudy is needed.[65]

g. Revisions to LGIP Section 4: Interconnection Request Evaluation Process

FERC adopted changes to *pro forma* LGIP Section 4, renamed Interconnection Request Evaluation Process, to implement the cluster study process. Specifically, FERC:

- Provided that transmission providers must assign queue positions based on the date and time of receipt of a valid interconnection request, but all interconnection customers that submit interconnection requests within a cluster request window must be considered equally queued.[66] Clusters initiated earlier in time must have a higher queue position than clusters initiated later in time.[67]
- Removed from Section 4.2 provisions allowing transmission providers to study interconnection requests serially and to provide 180 days' advance notice before opening a cluster window.[68] FERC also adopted the proposal to rename Section 4.2 "General Study Process" and revised it to require transmission providers to perform interconnection studies within the cluster study process.[69]
- Modified the proposed definition of queue position to provide that queue position is established pursuant to Section 4.1 of the pro forma LGIP.
- Provided that moving a point of interconnection shall result in a loss of queue position if it is deemed a material modification by the transmission provider *(i.e.*, the interconnection request will be withdrawn and the interconnection customer must re-enter the interconnection queue with a new interconnection request.)[70] However, FERC did not adopt the NOPR's proposed requirement to obtain approval for such a modification from any impacted interconnection customer in the same cluster.[71]
- Made clear that: (1) the modifications previously permitted prior to the return of the executed system impact study agreement are now permitted to be made prior to return of the executed cluster study agreement; and (2) for plant increases, the incremental increase will be studied with the next cluster study for purposes of cost allocation and study analysis.[72]

h. Less Than Three-Year Extension to Commercial Operation Date

In the Final Rule, FERC required that the commercial operation date reflected in the initial interconnection request be used in calculating the permissible three-year extension of the generating facility's commercial operation date.[73] FERC clarified that the commercial operation date reflected in the initial interconnection request shall be used in calculating the permissible extension until the interconnection customer executes an LGIA (or requests that the LGIA be filed unexecuted).[74] At that point, the commercial operation date established in the LGIA shall be the date from which the up to three cumulative years is calculated.[75] FERC also clarified that it did not propose, nor is it adopting, changes to the extension of in-service date provisions in *pro forma* LGIP Section 3.4.2, or to the suspension provision in *pro forma* LGIA article 5.16.[76]

i. Revisions to LGIP Cluster Study Provisions

In the NOPR, FERC proposed various revisions to *pro forma* LGIP Sections 6 and 7 to implement the cluster study process. The Final Rule adopted many of these proposals. Specifically, FERC:

- Deleted LGIP Section 6 (Interconnection Feasibility Study) and replaced it with the new requirements to publicly post interconnection information.[77]
- Revised Section 7 to rename it from "interconnection system impact study" to "cluster study."
- Required that the transmission provider must tender to each interconnection customer that submitted a valid interconnection request a cluster study agreement no later than five business days after the close of the cluster request window.[78]
- Established that if the interconnection customer does not provide technical data when it delivers the cluster study agreement, the transmission provider must notify the interconnection customer of the deficiency within five business days, and the interconnection customer must cure the deficiency within 10 business days of receipt of the notice.[79] FERC confirmed that an interconnection request

is considered withdrawn if the interconnection customer does not cure deficiencies identified by the transmission provider.[80]

- Clarified that the stability analysis, power flow analysis, and short circuit analysis previously conducted under the feasibility and system impact studies would be conducted on a clustered basis; and the cluster study shall use the level of interconnection service requested by interconnection customers in the cluster for purposes of determining necessary interconnection facilities and Network Upgrades, except where the transmission provider otherwise determines that it must study the full generating facility capacity due to safety or reliability concerns.[81]
- Established that within 10 business days of simultaneously furnishing a cluster study report to each interconnection customer within the cluster and posting such report on OASIS, the transmission provider shall convene an open meeting to discuss the study results.[82] However, FERC declined to adopt the NOPR proposal to require transmission providers to hold cluster study report meetings with individual customers, finding such meetings unnecessarily burdensome and inefficient.[83] FERC also required that the transmission provider must complete the cluster study within 150 calendar days of the close of the customer engagement window.[84] FERC clarified that the 150-day timeline includes time required to develop system models and base case data for the cluster study.[85]
- Required that the interconnection customer must provide, within 20 calendar days after the cluster study report meeting, a demonstration of site control and a commercial readiness deposit. [86] FERC also required that the transmission provider complete the cluster restudy within 150 calendar days and delineated the steps the transmission provider must take when a restudy is required or not required.[87] FERC confirmed that 150 days is a just and reasonable timeline to conduct potentially complex restudies.[88] FERC also noted that if there are no changes to the composition of the cluster, a cluster restudy is not required.[89] As discussed further below, FERC also removed the requirement to provide an initial study deposit that would have been applied towards the cost of the cluster study process.[90]

j. Withdrawal or Modification of a Higher- or Equally Queued Generating Facility May Trigger Restudies

The Final Rule clarified that a higher- or equally queued generator's withdrawal from the queue or material modification to its project may trigger restudies.[91] Modifications that are listed in Section 4.4 of the *pro forma* LGIP are not considered "material" modifications and thus would not trigger a potential restudy.[92] Any other modification not listed in Section 4.4 is considered an impermissible "material" modification that may trigger a restudy.[93] Restudies may also be triggered if there is either a withdrawal or a modification explicitly permitted under *pro forma* LGIP Section 4.4.[94] The Final Rule further provided that transmission providers now have discretion to decide whether a restudy is required following the withdrawal or modification of a higher- or equally queued interconnection request.[95] Finally, the Final Rule stated that if an interconnection customer moves forward with a material modification, it will lose its queue position and must proceed with a new interconnection request.[96]

The Commission declined to adopt the following NOPR proposal:

- To create a "secondary market" process that would allow a generating facility to replace a similarly situated one that withdraws from the interconnection queue, where withdrawal would otherwise only trigger a restudy.[97]

k. Timing of LGIA Tender, Execution, and Filing

The Final Rule revised Sections 11.1 (Tender) and 11.3 (Execution and Filing) of the *pro forma* LGIP. Now, Section 11.3 of the *pro forma* LGIP states: "Interconnection Customer may not request to suspend its LGIA under LGIA Article 5.16 until Interconnection Customer" meets certain tariff requirements. This reflects the

fact that it is the interconnection customer, not the transmission provider, that has the right to suspend the LGIA.[98] In addition, interconnection customers that request a transmission provider to file an unexecuted LGIA must satisfy the submission requirements within 10 business days after the date of the filing of the unexecuted LGIA with the Commission.[99]

The Commission declined to adopt the following NOPR proposals:

- To change the negotiation process between transmission providers and interconnection customers;[100]
- To be more prescriptive regarding what constitutes "reasonable evidence" of achieving development milestones when executing an LGIA;[101] and
- To provide additional time for payment of interconnection costs following the conclusion of the interconnection study process.[102]

l. Transmission Providers May Establish Cluster Subgroups — *i.e.*, Cluster Areas

The Final Rule revised Section 7.4 of the *pro forma* LGIP to permit transmission providers discretion to use subgroups in their cluster study process.[103] If a transmission provider chooses to use subgroups, it must reflect as much in its *pro forma* LGIP and make publicly available the criteria used to define such subgroups.[104] The Final Rule allows transmission providers to determine how clusters should be formed.[105] However, if a transmission provider opts to conduct cluster studies in subgroups, "it cannot change how it allocates Network Upgrade costs."[106] That is, transmission providers must continue "to use a proportional impact method to allocate system Network Upgrade costs among all interconnection customers in the cluster regardless of subgroup."[107]

The Commission declined to adopt the following NOPR proposals:

- To require subgroups for all transmission providers;[108] and
- To adopt provisions governing how clusters should be formed.[109]

m. Cluster Restudies

The Final Rule declined to adopt proposed revisions specifying how a transmission provider must conduct cluster restudies, when it must conduct a cluster restudy, and set limits on the number of allowable restudies per month.[110]

n. Exceptions to the Cluster Study Process

The Final Rule declined to adopt an optional alternative study process outside of the annual cluster study process.[111] The Commission found that establishing a separate interconnection process would likely detract from efforts to efficiently implement the annual cluster study process and may incentivize interconnection customers to bypass the annual cluster study process. This could exacerbate the time and resources required to complete the annual cluster study process and increase the number of restudies needed.[112]

3. Allocation of Cluster Study Costs

The Final Rule allows each transmission provider to allocate cluster study costs provided that "between 10% and 50% of study costs must be allocated on a per capita basis, with the remainder (between 90% and 50%) allocated pro rata by MW."[113]

According to the Commission, this approach is consistent with cost-causation principles, as it recognizes that cluster study costs are impacted by both the number of interconnection requests in a cluster and the size of the proposed generating facilities in each cluster and that, to a significant extent, study costs correlate to the total MW size of the cluster.

4. Allocation of Cluster Network Upgrade Costs Based on "Proportional" Method

Cost Allocation Methods

Under the Final Rule, transmission providers must initially allocate Network Upgrade costs among all interconnection customers within a cluster based on a proportional impact method (also called a distribution factor method).[114] In contrast, the costs of substation Network Upgrades must be initially allocated only to those interconnection customers seeking to interconnect at the same substation on a per capita basis.[115] Transmission providers must also directly assign the cost of shared transmission provider's interconnection facilities to interconnection customers on a per generating facility basis (*i.e.*, on a per capita basis).[116] Interconnection customers may agree to share interconnection facilities.[117] In this event, the default cost allocation of shared interconnection facilities will be on a per capita basis, although interconnection customers may choose an alternative cost sharing arrangement.[118]

Definitions

The Final Rule modified the definitions of substation network upgrades (including all switching stations) and system Network Upgrades in the *pro forma* LGIP and *pro forma* LGIA.[119] As modified, "substation Network Upgrades" means "the Network Upgrades required at the substation located at the point of interconnection."[120] "System Network Upgrades" now refers to "the Network Upgrades required beyond the substation located at the point of interconnection."[121] As the Commission explained, these modified definitions do not alter the "*pro forma* LGIP's definition of facilities needed beyond the point of interconnection as Network Upgrades," but rather, "provid[es] greater specificity with regard to how the costs of the two distinct types of Network Upgrades identified within a cluster study should be initially allocated."[122]

The Final Rule made further conforming changes to the *pro forma* LGIP by modifying the definition of "stand alone Network Upgrades" to recognize that: (1) substation Network Upgrades can only be considered a standalone if needed to interconnect only one generating facility in the cluster, and no other interconnection customer in that cluster is required to interconnect to the same substation Network Upgrades, and (2) the proportional impact method will be used to determine if a system Network Upgrade is needed only for one generating facility and can be considered a standalone Network Upgrade.[123]

Compliance Filings

The Final Rule directed transmission providers to submit, on compliance, proposed tariff revisions that describe the method they will use for allocating costs of each type of Network Upgrade.[124] The Final Rule clarified, however, that the specific metrics and thresholds for implementing the allocation and other technical information may be included in business practice manuals, or on the transmission provider's website.[125]

The Commission declined to adopt the following NOPR proposals:

- To require transmission providers to use consistent, uniform thresholds to measure impact;[126]
- To require transmission providers to use the proportional capacity method to allocate the costs of all system Network Upgrades;[127] and
- To limit the use of cluster areas, to limit participant funding and/or require assessment of whether transmission customers benefit from and should pay for Network Upgrades, establish a process to eliminate the use of headroom on network transmission facilities, and provide a third-party construction option.[128]

5. Shared Network Upgrades

FERC declined to implement the NOPR's shared Network Upgrades proposal, which would have shared the costs of Network Upgrades between clusters, finding that the proposal would have increased cost

uncertainty, failed to mitigate the "first mover/free rider" issue under the current interconnection regime, and would have been administratively burdensome to implement.[129]

6. Increased Financial Commitments and Readiness Requirements

a. Increased Study Deposits

The Final Rule adopted a single study deposit framework, payable at the time the interconnection customer submits an interconnection request.[130] The Final Rule adopted the following tiered approach:[131]

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 Final Rule removed the requirement for transmission providers to invoice interconnection customers monthly for the work conducted on the facilities study.[132]

b. Demonstration of Site Control

The Final Rule revised those provisions of the *pro forma* LGIA governing the demonstration of site control to increase the stringency of site control requirements.[133]

The Commission declined to adopt the following NOPR proposals:

- To require technology-specific acreages to be listed in the transmission provider's tariff;[134]
- To allow transmission providers to confirm site control throughout the interconnection process;[135] and
- To allow alternative site control requirements for interconnection facilities or Network Upgrades.[136]

(i) Definition and Reasonable Evidence of Site Control

The Final Rule modified the definition of site control in Section 1 of the *pro forma* LGIP to provide that site control can be demonstrated by, for example, showing ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility, showing an option to purchase or acquire a leasehold, or any other documentation evidencing exclusive rights occupy a site.[137] Under the Final Rule, showing exclusivity will be sufficient to show the interconnection customer's commitment to construct the generating facility.[138]

(ii) Site Control Demonstration and Deposits in Lieu of Site Control

Pursuant to the Final Rule, interconnection customers must now show evidence of 90% site control for the generating facility at the time they submit their interconnection request, but must provide evidence of 100% site control when the facilities study agreement is executed and when filing the LGIA.[139] Further, transmission providers must establish and publicly post acreage requirements for each generating facility technology type.[140] The Final Rule eliminated the option to provide a deposit or nonrefundable security in lieu of showing site control except for interconnection customers demonstrating "regulatory limitations" (*i.e.*, a federal, state, Tribal, or local law making it infeasible to otherwise timely obtain site control). Transmission providers must define, and publicly post, eligible regulatory limitations for purposes of this site control

exception.[141] Interconnection customers will have an opportunity to demonstrate satisfaction with the site control requirements within 10 days of a transmission provider providing notice of a deficiency.[142]

c. Adoption of Commercial Readiness Deposits

The Final Rule requires interconnection customers to submit a commercial readiness deposit to the transmission provider at the beginning of each study in the cluster study process: initial cluster study, cluster restudy, and facilities study.[143] FERC discussed its decision to adopt commercial readiness deposits instead of nonfinancial readiness demonstrations and explained that the deposit structure, pursuant to which the amount of deposits increase as the interconnection process proceeds, will help reduce the submission of speculative or commercially nonviable projects, or encourage them to withdraw earlier in the process.[144] FERC noted that the nonfinancial commercial readiness demonstrations outlined in the NOPR may not serve as appropriate indicators of a proposed generating facility's commercial viability on a national basis where, for example, proposed nonfinancial commercial readiness demonstrations may not be available to customers proposing to interconnect a commercially viable project.[145]

Deposit Amounts

The Commission stated that it will base the amount of the initial commercial readiness deposit on generating facility size because larger generating facilities typically require more costly Network Upgrades.[146] However, the second and third commercial readiness deposits will be based on the amount required to bring the total amount of the customer's commercial readiness deposit to 5% of the customer's Network Upgrade cost assignment identified in the cluster study, and the commercial readiness deposit to enter the facilities study will be the amount required to bring the total amount of the customer's commercial readiness deposit to 10% of the customer's Network Upgrade cost assignment identified in the cluster study or restudy.[147]

FERC clarified that where an interconnection customer reduces the size of a proposed generating facility, any previous deposits paid would be credited toward future deposits based on the portion of those previous deposits associated with the reduced generating capacity.[148] FERC also declined to add the commercial readiness requirements to the SGIP because the record does not demonstrate a need for reform at this time.[149]

d. LGIA Deposit

The Final Rule requires interconnection customers submit a deposit to the transmission provider when executing an LGIA or requesting the filing of an unexecuted LGIA that will increase their total commercial readiness deposit to 20% of the estimated Network Upgrade costs identified in the LGIA rather than a deposit of nine times the amount of the customer's study deposit, as proposed in the NOPR.[150] FERC required that interconnection customers submit the LGIA deposit when returning the executed LGIA to the transmission provider or within 10 business days of the customer requesting that the LGIA be filed unexecuted.[151]

Use of LGIA Deposit as Security for Network Upgrades

Pursuant to the Final Rule, the LGIA deposit will be used as part of the security that the interconnection customer must provide for the construction of needed Network Upgrades.[152] The LGIA deposit may be refunded if the interconnection customer withdraws after executing the LGIA or after requesting the filing of an unexecuted LGIA, subject to the withdrawal penalty.[153] The Final Rule required the transmission provider use the full LGIA deposit before requiring the interconnection customer to submit additional security for Network Upgrades.[154] As a result, the Final Rule eliminated the requirement that the LGIA deposit be returned at commercial operation, since there will no longer be a deposit to return.[155]

FERC also required transmission providers to draft Appendix B (Milestones) of an interconnection customer's LGIA to explain and estimate at which point of construction the customer's LGIA deposit will be

depleted and the customer must provide additional security.[156] If the interconnection customer requests suspension of the LGIA prior to the commencement of construction, the transmission provider will be prohibited from using the LGIA deposit to begin construction until the customer requests to exit suspension and resume construction — unless a transmission provider needs to use the deposit to ensure its system remains in a reliable condition throughout the period of suspension.[157]

e. Withdrawal Penalties

The Commission adopted, with certain modifications, the NOPR proposal to impose withdrawal penalties on customers for withdrawing their interconnection requests from the queue, in the absence of certain exceptions outlined by the Final Rule.[158] As FERC explained, a withdrawal penalty framework is necessary to reduce the volume of speculative interconnection requests and associated delays in the study process and to ensure that customers' proposed generating facilities are likely to be commercially viable when they submit their interconnection requests.[159] The Final Rule established withdrawal penalties that increase as customers proceed through the interconnection process, which ensures that customers continue to evaluate the commercial viability of their proposed facilities throughout the process and is expected to reduce the likelihood of late-stage withdrawals.[160] The Final Rule explained that withdrawal penalties will be calculated based on study costs for the initial cluster study, and on increasing percentages of Network Upgrade costs as the customer moves through the interconnection process.[161]

Distribution of Withdrawal Penalty Funds

The Final Rule required that any remaining penalty funds be used first to offset study costs for the cluster from which the customer withdrew, and second, to offset increases to Network Upgrade costs experienced by interconnection customers from the same cluster that remain in the queue and would be directly affected by the withdrawal of an interconnection request because they shared an obligation to fund certain upgrades with the withdrawn interconnection request.[162] The Final Rule provided that, where a customer withdraws before executing an LGIA or requests to file an unexecuted LGIA, and after the customers in the same cluster as the withdrawn customer participated in have executed LGIAs, requested their LGIAs be filed unexecuted, or withdrawn, any penalty funds not applied to study costs or increases in Network Upgrade costs must be returned to the withdrawn customer.[163]

Applicability of Withdrawal Penalties

The Commission explained that withdrawal penalties will be applied to an interconnection customer where:

(1) The interconnection customer withdraws its interconnection request at any point in the interconnection process;
(2) The 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.[164] Final Rule

However, the Commission provided that interconnection customers will *not* be required to pay a withdrawal penalty if:

(1) The customer withdraws its interconnection request after receiving the most recent cluster study report and Network Upgrade costs assigned to the customer's interconnection request have increased 25% compared to the previous cluster study report;
(2) The customer withdraws its interconnection request after receiving the individual facilities study report and the Network Upgrade costs assigned to the customer's request have increased by more than 100% compared to costs identified in the cluster study report; or[165]
(3) Withdrawal does not have a material impact on the cost or timing of other interconnection requests at an equal or lower position in the queue.[166]

FERC clarified that a withdrawal penalty applies not only when a customer chooses to withdraw its interconnection request but also when its interconnection request is deemed to have been withdrawn for

some reason or if the proposal does not otherwise reach commercial operation based on the terms of the *pro forma* LGIP.[167]

Withdrawal Penalty Calculation

The Commission explained that the withdrawal penalty calculation will be calculated as the greater of the study deposit *or*: (1) twice the study costs if the interconnection customer withdraws during the cluster study or after receipt of a cluster study report; (2) 5% of the customer's identified Network Upgrade costs if the customer withdraws during the cluster restudy or after receipt of any relevant restudy reports; (3) 10% of the customer's identified Network Upgrade costs if the customer withdraws during the facilities study, after the 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 customer's LGIA is terminated before its generating facility achieves commercial operation.[168]

7. Transition Process

The Final Rule requires transmission providers, in most cases, to establish a transition process for moving from the first-come, first-served study process to the first-ready, first-served study process.[169] Specifically, the Final Rule:

- Required transmission providers to offer existing interconnection customers up to three options for transition, depending on which phase of the study process their interconnection requests are in: (1) a transitional serial study including a facilities study; (2) a transitional cluster study including a clustered system impact study and individual facilities studies, or (3) withdrawal from the queue without penalty.[170] FERC also adopted the definitions for the reports associated with options (1) and (2), respectively (a transitional serial interconnection facilities study report and a transitional cluster study report).[171]
- Required transmission providers to offer the transitional serial study option to interconnection customers that have been tendered a facilities study agreement, even if that agreement is not yet executed.[172]
- 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 transmission provider's initial compliance filing date.[173] However, the Commission noted that where transmission providers have existing cluster studies or transition plans in progress, they will not be required to implement duplicative processes.[174]
- Required the transitional study withdrawal penalty equal nine times the study costs.[175]
- Required interconnection customers to meet transitional serial study eligibility requirements within 60 days after the FERC-approved effective date of a provider's compliance filing.[176] FERC explained that the 60-day deadline provides customers with sufficient time to adjust the new requirements — including to choose a transition option and, where needed, demonstrate site control and provide a deposit.[177]
- Regarding eligibility for transitional serial and transitional cluster studies, required any interconnection customer that has a facilities study agreement within 30 calendar days of the filing date of the transmission provider's initial filing to comply with the Final Rule may proceed with a transitional serial study or withdraw its interconnection request without penalty.[178] FERC also required that transmission providers tender the appropriate transitional study agreements (serial or cluster) to the eligible interconnection customers no later than the FERC-approved date of the provider's compliance filing with the Final Rule.[179]

- Declined to adopt the proposed commercial readiness demonstration options for transitional studies and instead adopted with some modifications the site control requirements set forth in the NOPR, finding that such a requirement will provide assurance that interconnection customers are construction-ready.
- Aligned the timelines for truing up construction costs in the proposed *pro forma* LGIP Section 5.1.1.2(2) and current (unmodified by the Final Rule), *pro forma* LGIA article 12.2 by making these provisions consistent at six months.[180]

B. Reforms to Increase the Speed of Interconnection Queue Processing

1. Elimination of the Reasonable Efforts Standard and Adoption of Penalties

Under the current LGIP, transmission providers are only required to use "reasonable efforts" to complete interconnection studies on time.[181] In the Final Rule, the Commission eliminated the "reasonable efforts" standard for conducting cluster studies, cluster restudies, facilities studies, and affected system studies and in its place adopted study delay penalties.[182] Specifically, under new Section 3.9 of the LGIP, 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.[183]

The Commission clarified that no study delay penalties will be assessed until the third cluster study cycles (including any transitional cluster study cycle, but not transitional serial studies) after the effective date of the transmission provider's Order No. 2023 compliance filing.[184] In addition, the Commission clarified that no study delay penalties will be assessed for a study that is delayed by 10 business days or fewer.[185] Moreover, deadlines may be extended by 30 business days by mutual agreement between the transmission provider and all interconnection customers in the particular study.[186] The Commission also established the following caps on study delay penalties: (1) 100% of the initial study deposits received for all of the interconnection requests in the cluster for cluster studies and cluster restudies; (2) 100% of the initial study deposit received for the single interconnection request in the study for facilities studies; and (3) 100%of the study deposit(s) that the transmission provider acting as an affected system operator (affected system transmission provider) collects for conducting the affected system study.[187] Further, transmission providers will be able to appeal any study delay penalties to the Commission no later than 45 calendar days after the late study has been completed, and the Commission will determine whether good cause exists to grant the requested relief.[188] FERC stated that customer-caused delays "that would represent a potentially compelling basis for the Commission to find that good cause exists to waive the study delay penalties."

Under the Final Rule, transmission providers must distribute study delay penalties on a pro rata basis per interconnection request to all interconnection customers or affected system interconnection customers included in the relevant study that did not withdraw, or were not deemed withdrawn, from the interconnection queue before the missed study deadline.[189] Additionally, non-RTO/ISO transmission providers and transmission-owning members of RTOs/ISOs may not recover study delay penalties in rates; however, RTOs/ISOs may submit a filing under FPA Section 205 to propose a structure for recovering study delay penalties and/or any specific study delay penalties.[190] Transmission providers also must post quarterly on their Open Access Same-Time Information System or other public website: (1) the total amount of study delay penalties from the previous quarter; and (2) the highest penalty paid to a single interconnection customer in the prior quarter.[191] The Commission declined to adopt the NOPR's proposed *force majeure* penalty exception, though transmission providers may explain in any appeal to the Commission any circumstances that caused the delay, including events that qualify as *force majeure*.[192]

2. Affected System Issues

a. Adoption of Standardized Affected System Study Process

FERC upheld its preliminary findings in the NOPR that there is a compelling need to reform and standardize affected systems study processes to ensure reliable, efficient, transparent, and timely interconnections.[193] To that end, FERC amended the *pro forma* LGIP to include a detailed affected system study process,[194] which only applies to jurisdictional public utility transmission providers.[195]

The Final Rule established that an affected system transmission provider is to complete its study within 150 calendar days after receipt of the affected system study agreement and deposit[196] and provides the following schedule for the study process:

(1) A transmission provider is required to notify an affected system within 10 business days of identifying an affected system impact either at the completion of the cluster study or the cluster restudy.[197]

(2) The affected system transmission provider then has 20 business days to notify the transmission provider as to whether it intends to conduct an affected system study and an additional 15 business days to provide a nonbinding, good faith estimate of the study's cost and schedule.[198]

(3) The affected system transmission provider must tender to the customer an affected system study agreement within 10 business days of sharing the study schedule.[199]

(4) Within 30 calendar days of providing the affected system study report, the affected system transmission provider must tender to the customer an affected system facilities construction agreement, and the customer shall have 10 business days thereafter to execute the agreement or request to be filed unexecuted with the Commission.[200]

(5) Additionally, within 10 business days of tendering the affected system study report, the affected system transmission provider and customer shall meet.

(6) The affected system transmission provider must notify the customer of a required restudy within 30 calendar days of discovering that such restudy is necessary,[201] such restudy period not to exceed 60 calendar days.[202]

In the Final Rule, the Commission declined to require a scoping meeting for the affected systems study process.[203]

Study Scope.

The Final Rule required the affected system study to consist of a power flow, stability, and short circuit analysis; consider the base case and all higher-queued facilities on the affected transmission provider's system; provide a list of required Network Upgrades and a nonbinding, good faith estimate of the time and customer's allocated cost to construct such upgrades.[204] As part of the study, the affected transmission provider may conduct any relevant studies, including a system impact study, a facilities study, or a combination of the two.[205]

Study Procedures.

The Commission adopted the NOPR's proposed affected system study procedures, with some modifications,[206] which are applicable to all public utility transmission providers, regardless of whether they have previously implemented a first-ready, first-served cluster study process.[207] The Final Rule required the clustering of interconnection customers for purposes of affected system studies where such customers, triggering the study, are part of a single cluster in the host transmission provider's study process.[208] Affected system interconnection customers studied in the same cluster will be equally queued.[209]

Queue Position.

The affected system interconnection customer's queue position provides a study and upgrade priority relative to the affected system transmission provider's interconnection customers in regards to the affected

system.[210] Provided that the affected system customer has received its cluster study results from its host transmission provider and executed an affected system study agreement, its priority shall be higher than that of the affected system transmission provider's customers that have not yet received their cluster study results.[211]

Aligning Affected System Study with Interconnection Process.

The Final Rule required a transmission provider, at the request of the interconnection customer, to delay the deadline for finalizing its LGIA if the customer does not receive the affected system study results prior to the deadline established pursuant to Section 9.7 of the LGIP, provided such delay would not have a material adverse impact on the cost or timing of an equal or lower queued interconnection customer.[212] If no material adverse impact is found, the interconnection customer will have 30 calendar days from the receipt of the affected system study report to execute its LGIA or request filing it unexecuted; otherwise the transmission provider will set the LGIA execution date to 30 calendar days after notice of the material adverse impact determination.[213] If the customer is permitted to delay execution of the LGIA for the foregoing reason, it will not be required to post security or fund Network Upgrades until after execution; however, where a customer elects to move forward with LGIA execution prior to receipt of affected system study results, the customer will be required to fund upgrades on the LGIA's schedule.[214]

Cost Allocation and Withdrawal Penalties.

The Final Rule adopted the NOPR proposal to allocate affected system study costs using a proportional impact method.[215] Additionally, the Commission declined to permit penalty-free withdrawal from the host system's interconnection queue if the affected system study results in increases to the customer's costs by any threshold.[216]

Miscellaneous.

The Commission declined to adopt the NOPR proposal to require transmission providers to share information about their systems on a frequent basis with affected system operators.[217] Furthermore, the Final Rule does not require voluntary coordination between affected system and host transmission providers and leaves coordination by and through the interconnection customer.[218] FERC also clarified that transmission providers will not be penalized for the inaction of nonjurisdictional utility transmission providers as long as they fulfill the obligations in their own LGIPs.[219] Finally, FERC clarified that nothing in the Final Rule is intended to alter the Commission's approach to Qualifying Facilities under PURPA.[220]

b. Adoption of New Affected System Pro Forma Agreements

i. Pro Forma Affected System Study Agreement

In the Final Rule, the Commission adopted, with modifications, the proposed *pro forma* affected system study agreement.[221] The *pro forma* affected system study agreement will require the affected system study to: (i) identify any circuit breaker short circuit capability limits exceeded as a result of the interconnection; (ii) identify any thermal overload or voltage limit violations resulting from the interconnection; (iii) identify any instability or inadequately damped response to system disturbances resulting from the interconnection; and (iv) provide a nonbinding, good faith cost estimate for facilities to connect the Affected System Interconnection customer's project to its host transmission provider's system, as well as describe how such facilities will address the identified short circuit, instability, and power flow issues.[222]

The Commission made two modifications from the proposed rule.[223] First, it established a multiparty *pro forma* affected system study agreement. [224] The *pro forma* multiparty agreement will allow affected system transmission providers to enter into the same affected system study agreement with each of the affected system interconnection customers that it must study in a cluster.[225] Second, it modified the *pro forma* affected system study agreement to explicitly require affected system interconnection customers to provide a study deposit.[226]

ii. New *Pro Forma* Affected System Facilities Construction Agreement

In the Final Rule, the Commission also adopted a new *pro forma* affected system facilities construction agreement, which sets the terms and conditions for the construction of Network Upgrades on affected systems.[227] Affected system transmission providers will be required to reimburse affected system interconnection customers for the costs of affected system Network Upgrades.[228]

The Commission adopted a *pro forma* multiparty affected system facilities construction agreement to improve coordination and provide a common agreement for the affected system transmission provider to enter into with all affected system interconnection customers for the construction of affected system Network Upgrades identified by the cluster study that are assigned to more than one affected system interconnection customer.[229] The Commission provided additional changes to convert the *pro forma* affected system facilities construction agreement from a two-party agreement to a multiparty agreement, including:

- The default by one affected system interconnection customer does not allow the nondefaulting affected system interconnection customer(s) the right to terminate the agreement and that, instead, the defaulting party may be removed from the agreement by the affected system transmission provider.[230]
- The affected system interconnection customer's right to suspend but only upon the mutual agreement of all affected system interconnection customers that are party to the multiparty agreement.[231]
- Multiparty cure procedures whereby the nonbreaching parties may cure the other affected system interconnection customer's breach.[232]
- Affected system interconnection customers are not responsible for the cost of additional facilities that are caused to another interconnection customer due to the termination of agreement.[233] The Commission found that the affected system interconnection customer should not be responsible for any additional facilities that are assigned to another interconnection customer under such circumstances.[234] The Commission explained that an affected system interconnection customer would not be responsible for any Network Upgrade identified because of the agreement's termination, even if the newly assigned Network Upgrade is on a different transmission provider's transmission system than the transmission provider that is a signatory to the terminated agreement.[235]
- An affected system interconnection customer may suspend work required under the affected system facilities construction agreement for up to three years.[236]
- If an affected system interconnection customer defaults, the affected system interconnection customer will be responsible for any additional expense incurred by the affected system transmission provider associated with the construction and installation of the affected system Network Upgrades.[237]
- Parties may mutually agree to a repayment schedule for all applicable costs associated with affected system Network Upgrades, with complete repayment not to exceed 20 years from the commercial operation date of the affected system interconnection customer's generating facility.[238]
- A party will not be in breach for failure to comply with a material term or condition of the agreement due to an inaccuracy in a representation, warranty, or covenant made in the agreement.[239]
- The cure period for a breach is 60 calendar days and there is no additional cure period if the breach remains despite the occurrence of good faith steps.[240]

c. Affected System Modeling and Study Assumptions

The Final Rule required affected system transmission providers to study all affected system interconnection requests using ERIS modeling standards.[241] The Commission found that this is likely to prevent an affected system interconnection customer from being required to construct significant Network Upgrades on the transmission provider's affected system, but not being deliverable due to curtailment or congestion on the affected system.[242] The Commission declined to expressly acknowledge that an affected system transmission provider may submit an FPA Section 205 filing to request to study an affected system interconnection customer using NRIS on a case-by-case basis.[243]

3. Option Resource Solicitation Study

The Commission declined to modify the *pro forma* LGIP to require transmission providers to allow resource planning entities to initiate an optional resource solicitation study.[244] The Commission found it was unable to justify a generic solution across all regions for coordinating state-level resource planning with the interconnection process.[245] The Commission stated that its decision not to adopt the proposed rule in no way prejudges any future resource solicitation study proposals that transmission providers may choose to file pursuant to FPA Section 205.[246]

C. Reforms to Incorporate Technological Advancements Into the Interconnection Process

1. Increasing Flexibility in the Generator Interconnection Process

a. Adoption of Co-Located Generating Facilities Behind One Point of Interconnection With Shared Interconnection Requests

The Final Rule will 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.[247]

However, FERC declined to adopt the following proposals in the NOPR:

- Proposed definitions of "co-located resource" and "electric storage resource."[248]
- Proposal to modify the definitions of interconnection facilities and transmission provider's interconnection facilities to specify that interconnection facilities may be shared among interconnection customers.[249]
- Proposal to revise the *pro forma* LGIP to require generating facilities that are co-locating to have technology to address differences in terminal voltage between co-located generating facilities to ensure that these generating facilities have the same voltage levels.[250]

Additionally, FERC clarified that interconnection customers will be able to choose to structure their interconnection request and are not required to share a single interconnection request for multiple generating facilities on the same site.251 FERC further clarified that interconnection customers may submit separate interconnection requests to have each device studied separately.[252] However, FERC added that if an interconnection customer submits a single interconnection request for multiple generating facilities, the generating facilities must be located on the same point of interconnection to reduce complexity.[253]

b. FERC Requires the Consideration of Generating Facility Additions During the Modification Process

The Final Rule required transmission providers to evaluate the proposed addition of a generating facility at the same point of interconnection prior to deeming such addition to be a material modification, if the addition does not change the originally requested interconnection service level.[254] FERC determined 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.[255]

In the Final Rule, FERC modified the NOPR proposals as follows:

- Removed the 60-calendar day requirement for assessment of material modification;[256]
- Limited the requirement that the transmission provider analyze a request to add a generating facility to an existing interconnection request solely to requests received prior to the interconnection customer's return of the executed facilities study agreement to the transmission provider;[257] and
- Created an exception for transmission providers that employ fuel-based dispatch assumptions from these requirements.[258]

Additionally, FERC clarified that it is not changing the definition of material modification to be more prescriptive given the nuances in transmission providers' processes.[259] FERC further clarified that per the *pro forma* LGIP before 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.[260] FERC also clarified that 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.[261]

However, while FERC did not provide firm guidelines for transmission providers to determine whether such request is a material modification, FERC did determine that transmission providers must retain flexibility to evaluate such request.[262]

c. Adoption of Access to Available Surplus Interconnection Service

The Final Rule 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.[263]

FERC clarified the following points:

- The LGIA of the original interconnection request is suspended, then any submitted requests for surplus interconnection service are likewise suspended, and new requests for surplus interconnection service may not be submitted, until after the suspension is lifted;[264]
- The original LGIA is terminated, including for exceeding the three-year suspension period any related surplus interconnection service allowed as a result of the original LGIA will be terminated because surplus interconnection service is dependent upon the underlying interconnection service used by existing generating facilities;[265]
- Where an interconnection customer has executed the LGIA, or requested that the LGIA be filed unexecuted, interconnection customers may submit surplus interconnection service requests to the transmission provider;[266]
- The original interconnection customer must have an LGIA in place, either executed or requested to be filed unexecuted with the Commission, before tendering any LGIA for surplus interconnection service;[267] and
- Any revisions to the modification process do not extend to the surplus interconnection service process and the revisions would be used after the interconnection study process is complete and the interconnection customer has an executed LGIA, or an unexecuted and filed LGIA.[268]

d. Adoption of Operating Assumptions for Electric Storage Resources in Interconnection Studies

The Final Rule required transmission providers, at the request of the interconnection customer, to use operating assumptions that reflect the proposed charging behavior of an electric storage resource. The Final

Rule also allowed interconnection customers to resubmit their operating assumptions if the transmission provider finds the originally proposed operating assumptions are in conflict with good utility practice and allows the transmission provider to require the interconnection customer to install additional control technologies.[269]

In the Final Rule, FERC modified the NOPR proposal:

- To require that, if a transmission provider finds an interconnection customer's proposed operating assumptions to be in conflict with good utility practice, the transmission provider must provide the interconnection customer with a clear explanation in writing of why the submitted operating assumptions are insufficient or inappropriate by no later than 30 calendar days before the end of the customer engagement window and allow the interconnection customer to revise and resubmit the proposed operating assumptions one time at least 10 calendar days before the end of the customer engagement window;[270]
- To require transmission providers, at the request of the interconnection customer, to use operating assumptions that reflect the proposed charging behavior of an electric storage resource in additional study processes;[271]
- To require transmission providers, at the request of the interconnection customer, to use operating assumptions that reflect the proposed charging behavior of an electric storage resource in the surplus interconnection service process;[272]
- To revise the *pro forma* LGIP to require transmission providers, at the request of the interconnection customer, to use operating assumptions that reflect the proposed charging behavior of an electric storage resource in the material modification process;[273]
- To revise its *pro forma* LGIA to describe a violation of operating assumptions for generating facilities, including for an electric storage resource.[274]

FERC further clarified that:

- Studying electric storage resources, at the request of the interconnection customer, according to their planned operating assumptions means only the operating assumptions for withdrawals of energy in interconnection studies;[275] and
- 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 is appropriate.[276] Thus, if an owner of the generating facility fails to operate the generating facility in accordance with its operating assumptions, the transmission provider may pursue termination of the LGIA through the breach and cure provisions.[277]

FERC required transmission providers to study ERIS- and NRIS-requesting electric storage resources according to the interconnection customer's proposed operating assumptions.[278] FERC required interconnection customers to provide to the transmission provider as part of the initial interconnection request: (1) the requested operating assumptions for the interconnecting electric storage resource; and (2) a description of any applicable control technologies.[279] FERC did *not* require transmission providers to: (1) memorialize the generating facility's operating assumptions in Appendix H of the interconnection customer's LGIA; and/or (2) require control technologies (software and/or hardware) for an electric storage resource that wishes to limit its operations during peak load conditions, with such protection devices included in Appendix C of the interconnection customer's LGIA.[280] Lastly, this reform did not require transmission providers to study charging as part of the interconnection process if they do not already do so (*e.g.* for transmission providers that study charging in the transmission service context).[281]

2. Incorporating Alternative Transmission Technologies Into the Generator Interconnection Process

a. Consideration of Alternative Transmission Technologies in Interconnection Studies Upon Request of the Interconnection Customer

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; advance conductors; and tower lifting.[282] Transmission providers will be required to evaluate the enumerated list of alternative transmission technologies 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 need to have received a request from an interconnection customer.[283] In evaluating these alternative transmission technologies, transmission providers must determine, in their sole discretion, whether it should be used, consistent with good utility practice, applicable reliability standards, and other applicable regulatory requirements.[284] The Commission required transmission providers to include an explanation of the results of the evaluation of the alternative transmission technologies for feasibility, cost, and time savings in the *pro forma* LGIP cluster study report.[285] The Commission established similar changes to the *pro forma* SGIP.[286]

b. Annual Information Report

The Commission declined to adopt the NOPR proposal requiring transmission providers to submit an annual informational report that details whether, and if so how, the list of alternative transmission technologies were considered in interconnection studies over the prior year.[287] Among other things, the Commission found that the time and resources to produce the informational report could adversely impact the ability to increase the speed of interconnection queue processing, which outweighs the incremental transparency from the report.[288]

3. Modeling and Ride-Through Requirements for Nonsynchronous Generating Facilities

a. Modeling Requirements for Nonsynchronous Generating Facilities

FERC revised the *pro forma* LGIP and *pro forma* SGIP to require each interconnection customer requesting to interconnect a nonsynchronous generating facility to submit to the transmission provider:

(1) A validated user-defined RMS positive sequence dynamic model;

(2) An appropriately parameterized generic library RMS positive sequence dynamic model; and

(3) A validated EMT model, if the transmission provider performs an EMT study.[289]

FERC also adopted the NOPR proposal 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;

(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 the *pro forma* LGIP and the *pro forma* SGIP to require that any proposed modification of the interconnection request be accompanied by updated models of the proposed generating facility.[290]

b. Ride Through Requirements

General Requirements.

The Final Rule adopted, with modification, the NOPR's "ride-through" requirements for nonsynchronous generating facilities. These new requirements will only apply prospectively to new interconnections.[291] The Final Rule required that all newly interconnecting large generating facilities provide 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.[292] The Commission explained that this will address the gap in ride-through requirements for large generating facilities.[293] Additionally, to ensure that large generating facilities are capable of meeting the ride through requirements adopted in the LGIA and SGIA, the Final Rule adopted the NOPR's proposed revisions to Article 9.7.3 of the pro forma LGIA to include in the definition of "ride through" the large generating facility's ability to stay connected to and synchronized with the system during disturbances within under-voltage and over-voltage conditions.[294]

New Requirements for Nonsynchronous Generating Facilities.

The Final Rule adopted, with modifications, the NOPR proposal to require newly interconnecting nonsynchronous generating facilities to continue current injection inside the "no-trip zone" of the frequency and voltage ride-through curves of Reliability Standard PRC-024-3 or its successor standards.[295] FERC required that during abnormal frequency and voltage conditions, but within the physical limitations of the generating facility, a nonsynchronous generating facility must configure its control and protection settings to (i) continue active power production during the disturbance and post-disturbance periods at pre-disturbance levels, unless it is providing primary or fast frequency response; (ii) minimize reductions in active power where reactive power priority mode is enabled, unless providing primary or fast frequency response; (iii) not artificially limit dynamic reactive power capability during disturbances; and (iv) unless providing primary or fast frequency response, return to pre-disturbance active power levels without artificial ramp rate limits when active power is reduced.[296] The Final Rule modified the language of the requirements to accommodate the limitations of nonsynchronous resources and prioritize reactive power by reducing active power, without artificially limiting a resource's actual capability to contribute to system reliability.[297]

D. Issues Beyond the Scope of the Rulemaking

The Commission noted that issues regarding the coordination of transmission planning with generator interconnection are beyond the scope of the rulemaking.[298]

IV. COMPLIANCE PROCEDURES

- Compliance filings are due within 90 calendar days of the Final Order's publication in the *Federal Register*.
- Transmission providers proposing deviations from the Final Rule will be held to the "consistent with or superior to" standard (for non-RTO/ISO providers) and "independent entity variation" standard for RTOs/ISOs.
- FERC rejected arguments that existing transmission provider reforms already meet the requirements of the rule or that FPA Section 206 requires individualized findings for each transmission provider; rather, such transmission providers must still justify deviations under the above-noted standards.

V. EFFECTIVE DATE

The Final Rule is effective 60 days after the date of publication in the Federal Register, however, each transmission provider's specific tariff revisions will not become effective until the Commission-approved effective date.[299]

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DANLY, CONCURRING

Commissioner James Danly concurred with the Final Rule, stating that while he continues "to harbor misgivings about the Commission's power to implement far reaching, uniform policies" based on the Commission's authority under FPA Section 206, he is satisfied that the existing interconnection procedures in both RTO and non-RTO regions have been shown to be unjust and unreasonable.[300] Commissioner Danly explains that his preference is to receive Section 205 filings from utilities proposing interconnection reforms, and that he will "thoroughly review" requests for rehearing, particularly arguments that FERC exceeded its FPA Section 206 authority or failed to carry its evidentiary burden.

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CLEMENTS, CONCURRING

Commissioner Allison Clements concurred with the Final Rule, emphasizing that while she supports the Final Rule, deeper reforms must be made to target the fundamental challenges with the interconnection process.[301] Commissioner Clements explains that these reforms include proactive transmission planning, competitive resource solicitations, the streamline of study scope and need for restudies for projects requesting energy-only service, automation to facilitate more efficient interconnection, and the examination of interconnection resources serving or developed by Tribes.[302]

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CHRISTIE, CONCURRING

Commissioner Mark C. Christie concurred with the Final Rule, stating that the Final Rule "…represents major progress towards the primary goal we set out to accomplish last year when we issued the NOPR."[303] Christie concurred separately to argue four issues more in-depth: (1) that additional cost-savings could be met from grid-enhancing technologies (GETs) such as dynamic line ratings; (2) that recent FERC precedent supporting transmission provider reimbursement for Affected System Network Upgrades should be revisited; (3) that consumers should be protected from transmission provider costs incurred from the "heatmap" and study delay penalty provisions; and (4) that existing RTO interconnection reforms should be permitted to persist, and that whether the Final Rule adequately "holds harmless" these efforts will be an issue for compliance filings.

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[1] *Improvements to Generator Interconnection Procedures and Agreements*, Order No. 2023, 184 FERC ¶ 61,054 at P 11, 15 (2023) (Final Rule) (referencing, *Standardization of Generator Interconnection Agreements & Proc.,* Order No. 2003, 104 FERC ¶ 61,103 (2003), *Standardization of Small Generator Interconnection Agreements & Proc.,* Order No. 2006, 111 FERC ¶ 61,220(2005)).

[2] Final Rule, 184 FERC ¶ 61,054 at P 17*; See also Reform of Generator Interconnection Procs & Agreements*, Order No. 845, 163 FERC ¶ 61,043 (2018).

[3] *Improvements to Generator Interconnection Procs. & Agreements*, Notice of Proposed Rulemaking, 179 FERC ¶ 61,194 at P 18 (2022) (NOPR).

[4] Final Rule at P 20.

[5] *Id.*

[6] *Id.* at P 21.

[7] *Id.* at P 22.

[8] *Id.* at P 23.

[9] *Id.* at P 7.

[10] *Id.* at P 37.

[11] *Id.*

[12] *Id.*

[13] *Id.* at P 39-40.

[14] *Id.* at P 41.

[15] *Id.* at P 44.

[16] *Id.* at P 46.

[17] *Id.* at P 47.

[18] *Id.* at P 50.

[19] *Id.* at P 51.

[20] *Id.* at P 52.

[21] *Id.* at P 53.

[22] *Id.* at P 59.

[23] *Id.* at P 89.

[24] *Id.*

[25] *Id.*

[26] *Id.* at P 135.

[27] *Id.*

[28] *Id.*

[29] *Id.* at P 136.

[30] *Id.* at PP 137, 160.

[31] *Id.* at P 138.

[32] *Id.* at PP 140-141.

[33] *Id.* at P 141.

[34] *Id.* at P 142.

[35] *Id.* at P 153.

[36] *Id.* at P 162.

[37] *Id.*

[38] *Id.* at P 177.

[39] *Id.*

[40] *Id.*

[41] *Id.* at PP 180-181.

[42] *Id.* at PP 184, 192.

[43] *Id.* at P 192.

[44] *Id.* at P 193. FERC further stated that were it not to adopt this revision, multiple interconnection customers could potentially attempt to construct the same stand-alone network upgrades, leading to confusion and potentially

lengthy negotiations and/or disputes regarding which interconnection customer had the right to construct the stand alone network upgrade.

[45] *Id.* at P 192.

[46] *Id.* at P 200.

[47] *Id.* at P 201.

[48] *Id.* at P 202.

[49] *Id.* at P 223. FERC declined requests to allow interconnection customers to submit interconnection requests prior to the beginning of the cluster request window. *Id.* at P 236.

[50] *Id.* at P 227.

[51] *Id.* at P 228. On the latter point, FERC explained that transmission providers with the capacity to conduct multiple cluster studies at a given time should be permitted to do so to facilitate more effective and efficient interconnection processes. *Id.*

[52] *Id.* FERC explained that an interconnection customer that submits its interconnection request more than 10 business days before the close of the cluster request window will have a full 10 business days to submit a response, whereas an interconnection customer that does not submit its interconnection request until less than 10 business days before the close of the cluster request window will have however many days remain in the cluster request window to respond to any deficiencies. *Id.* at P 226.

[53] *Id.* at P 226.

[54] *Id.* at P 232.

[55] *Id.* at Appendix C, Pro forma LGIP, Section 3.4.5.

[56] *Id.* at P 234.

[57] *Id.* at P 232.

[58] *Id.*

[59] *Id.* at P 237.

[60] *Id.* at P 230.

[61] *Id.* at P 238.

[62] *Id.* at PP 245-246.

[63] *Id.* at P 247.

[64] *Id.* at P 259; *see also* Appendix C, Section 3.5.2.1(B).

[65] *Id.* at P 260.

[66] *Id.* at P 277. Section 4.1 (Queue Position).

[67] *Id.*

[68] *Id.* at P 278.

[69] *Id.*

[70] *Id.* at PP 280, 283. Section 4.4 (Modification).

[71] *Id.* at P 283.

[72] *Id.* at P 285.

[73] *Id.* at P 288.

[74] *Id.* at P 293.

[75] *Id.*

[76] *Id.* at P 296.

[77] *Id.* at P 316.

[78] *Id.* at Appendix C, Section 7.1 (Cluster Study Agreement).

[79] *Id.* at Section 7.2 (Execution of Cluster Study Agreement).

[80] *Id.* at P 319. FERC also pointed out that under new Section 3.4.4 of the *pro forma* LGIP, both the interconnection customer and the transmission provider must "work expeditiously and in good faith to remedy such issues." *Id.*

[81] *Id.* at Appendix C, Section 7.3 (Scope of Cluster Study Agreement).

[82] *Id.* at Section 7.4 (Cluster Study Procedures).

[83] *Id.* at P 322.

[84] *Id.* at Appendix C, Section 7.4 and P 327. FERC confirmed that the 150-day timeframe provides sufficient time to complete the required studies while providing certainty to interconnection customers that the process will proceed in a timely manner. *Id.* at P 324.

[85] *Id.* at P 328. FERC also noted that if a cluster study is complete before the deadline, transmission providers have the flexibility to provide the cluster study report at that time, prior to the 150 day deadline, so long as it provides an update on its website or OASIS. *Id.* at P 324.

[86] *Id.* at Appendix C, Section 7.5(Cluster Study Restudies).

[87] *Id.*

[88] *Id.* at P 329.

[89] *Id.* at P 323.

[90] *Id.* at P 317.

[91] *Id.* at P 335.

[92] *Id.*

[93] *Id.*

[94] *Id.*

[95] *Id.* Currently, the *pro forma* LGIP makes it mandatory for transmission providers to conduct a restudy in these situations.

[96] *Id.* at P 335.

[97] *Id.* at P 336.

[98] *Id.* at P 344.

[99] *Id.* at P 347.

[100] *Id.* at P 348.

[101] *Id.* at P 349.

[102] *Id.* at P 350.

[103] *Id.* at P 363.

[104] *Id.*

[105] *Id.* at P 365.

[106] *Id.* at P 366.

[107] *Id.*

[108] *Id.* at P 364.

[109] *Id.* at P 365.

[110] *Id.* at P 374.

[111] *Id.* at P 377.

[112] *Id.* at P 392.

[113] *Id.* at P 416.

[114] *Id.* at PP 453, 457. However, the Final Rule acknowledged the Commission's willingness to consider alternative allocation methods proposed by transmission providers, subject to Order No. 2003's consistent with or superior to standard or the independent entity variation standard, as applicable. *Id.* at P 464.

[115] *Id.* at PP 453, 458.

[116] *Id.* at P 454.

[117] *Id.*

[118] *Id.*

[119] *Id.* at P 458.

[120] *Id.* at P 458 n.918.

[121] *Id.* at P 458 n.919.

[122] *Id.* at P 459.

[123] *Id.* at P 460.

[124] *Id.* at P 462.

[125] *Id.*

[126] *Id.* at P 463.

[127] *Id.* at P 464.

[128] *Id.* at P 467.

[129] *See id.* at PP 486, 488.

[130] *Id.* at P 503.

[131] *Id.* at P 502.

[132] *Id.* at P 506.

[133] *Id.* at P 583.

[134] *Id.* at P 595.

[135] *Id.* at P 600.

[136] *Id.* at P 604.

[137] *Id.* at P 584.

[138] *Id.*

[139] *Id.*

[140] *Id.* at P 595.

[141] *Id.* at P 606.

[142] *Id.* at P 597.

[143] *Id.* at P 690.

[144] *Id.* at P 691.

[145] *Id.* at P 695.

[146] *Id.* at P 692.

[147] *Id.* at P 693. (The Commission explained that these proposed modifications will incentivize the withdrawal of nonviable or speculative interconnection requests earlier in the process, and will ensure that customers with viable projects are able to interconnect in an efficient and timely manner. However, FERC noted that this Final Rule does not preclude transmission providers from adopting nonfinancial commercial readiness demonstrations, provided they meet the relevant standards when requesting a variation.)

[148] *Id.* at P 706.

[149] *Id.* at P 707.

[150] *Id.* at P 714.

[151] *Id.*

[152] *Id.* at P 716.

[153] *Id.*

[154] *Id.* at P 717.

[155] *Id.*

[156] *Id.* at P 718.

[157] *Id.*

[158] *Id.* at P 780.

[159] *Id.*

[160] *Id.*

[161] *Id.* at P 791.

[162] *Id.* at P 781.

[163] *Id.*

[164] *Id.*

[165] *Id.* at P 784.

[166] *Id.*

[167] *Id.* at P 794.

[168] *Id.* at P 791.

[169] *Id.* at P 855.

[170] *Id.*

[171] *Id.*

[172] *Id.*

[173] *Id.*

[174] *Id.* at P 861.

[175] *Id.* at P 860.

[176] *Id.* at P 864.

[177] *Id.*

[178] *Id.* at P 865.

[179] *Id.* at P 867.

[180] *Id.*

[181] *Id.* at P 872.

[182] *Id.* at P 965.

[183] *Id.* at P 973.

[184] *Id.* at P 979.

[185] *Id.* at P 981. However, if the study is delayed by more than 10 business days, the penalty amount will be calculated from the first business day the transmission provider exceeds the study deadline, rather than the tenth business day. *Id.*

[186] *Id.* at P 982.

[187] *Id.* at P 984.

[188] *Id.* at P 987.

[189] *Id.* at P 990.

[190] *Id.* at PP 992–94.

[191] *Id.* at P 1002.

[192] *Id.* at P 1003.

[193] *Id.* at P 1032.

[194] *Id.* at P 1110.

[195] *Id.* at P 1033.

[196] *Id.* at PP 1134, 1136.

[197] *Id.* at P 1120.

[198] *Id.* at PP 1120, 1155.

[199] *Id.* at P 1154.

[200] *Id.* at PP 1165-1166.

[201] *Id.* at P 1171.

[202] *Id.* at P 1170.

[203] *Id.* at PP 1116, 1132, 1155.

[204] *Id.* at P 1160.

[205] *Id.* at P 1161.

[206] *Id.* at P 1133.

[207] *Id.* at P 1145.

[208] *Id.*

[209] *Id.* at PP 1138, 1147.

[210] *Id.* at P 1139.

[211] *Id.* at PP 1140-1141.

[212] *Id.* at PP 1123-1124.

[213] *Id.*

[214] *Id.* at P 1129.

[215] *Id.* at P 1149.

[216] *Id.* at P 1151.

[217] *Id.* at P 1153.

[218] *Id.* at P 1172.

[219] *Id.* at P 1176.

[220] *Id.* at P 1180.

[221] *Id.* at P 1192.

[222] *Id.* at P 1184-85.

[223] *Id.* at P 1192.

[224] *Id.*

[225] *Id.* at P 1193.

[226] *Id.* at P 1196.

[227] *Id.* at P 1199.

[228] *Id.* at P 1231.

[229] *Id.* at P 1233.

[230] *Id.* at P 1234. Revision to article 2.2.2 (Termination Upon Default).

[231] *Id.* at P 1234. Revision to article 3.1.2.1 (Right to Suspend).

[232] *Id.* at P 1234. Revision to article 5.3 (Notice of Breach, Cure, and Default).

[233] *Id.* at P 1238. Revision to article 2.2.3 (Consequences of Termination).

[234] *Id.*

[235] *Id.*

[236] *Id.* at P 1241. Revision to article 3.1.2.3 (Right to Suspend Due to Default).

[237] *Id.* at P 1242.

[238] *Id.* at P 1248. Revision to article 3.2.2.1

[239] *Id.* at P 1250. Revision to article 5.1(b).

[240] *Id.* at P 1251. Revision to articles 5.2.1 and 5.2.2 (now article 5.3.1 and 5.3.2).

[241] *Id.* at P 1276.

[242] *Id.* at P 1278.

[243] *Id.* at P 1276.

[244] *Id.* at P 1322.

[245] *Id.* at P 1233.

[246] *Id.* at P 1323.

[247] *Id.* at PP 1346, 1349.

[248] *Id.*

[249] *Id.* at P 1347.

[250] *Id.* at P 1348.

[251] *Id.* at P 1351.

[252] *Id.* at P 1352.

[253] *Id.*

[254] *Id.* at P 1406.

[255] *Id.* at P 1407.

[256] *Id.* at P 1408.

[257] *Id.* at P 1409.

[258] *Id.* at PP 1410-1411.

[259] *Id.* at P 1412.

[260] *Id.* at P 1417.

[261] *Id.*

[262] *Id.* at P 1419.

[263] *Id.* at P 1436.

[264] *Id.* at P 1440.

[265] *Id.*

[266] *Id.* at P 1441.

[267] *Id.* at P 1445.

[268] *Id.* at P 1446.

[269] *Id.* at PP 1509; 1511.

[270] *Id.* at P 1511.

[271] *Id.* at P 1513.

[272] *Id.* at P 1514.

[273] *Id.* at P 1516.

[274] *Id.* at P 1521.

[275] *Id.*

[276] *Id.*

[277] *Id.*

[278] *Id.* at P 1512.

[279] *Id.* at P 1519.

[280] *Id.* at P 1517.

[281] *Id.* at P1526.

[282] *Id.* at P 1578.

[283] *Id.*

[284] *Id.*

[285] *Id.*

[286] *Id.* at PP 1580–81.

[287] *Id.* at P 1619.

[288] *Id.*

[289] *Id.* at P 1659.

[290] *Id.* at P 1660.

[291] *Id.* at P 1725.

[292] *Id.* at P 1733.

[293] *Id.*

[294] *Id.* at P 1718.

[295] *Id.* at P 1711.

[296] *Id.* at P 1715.

[297] *Id.* at P 1717.

[298] *Id.* at P 1743.

[299] *Id.* at P 1785.

[300] *Id.*, Comm'r Danly Concurring Statement at P 1.

[301] *Id.*, Comm'r Clements Concurring Statement at P 4.

[302] *Id.* at PP 13-38.

[303] *Id*, Comm'r Christie Concurring Statement. at P 1.