

BALANCING THE INTERCONNECT

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On April 19, 2018, the Federal Energy Regulatory Commission ("FERC") issued its much anticipated [Final Rule](#) to amend the *pro forma* Large Generator Interconnection Procedures ("LGIP") and Large Generator Interconnection Agreement ("LGIA") ("Order No. 845" or the "Order"). Order No. 845 aims to eliminate inefficiencies and to provide a more streamlined and transparent interconnection process by adopting several reforms. The Order's objectives are three-pronged: (1) to improve reliability, (2) to promote more informed interconnections, and (3) to enhance generators' interconnection processes by eliminating inefficiencies and bottlenecks.

Order No. 845's reforms to the interconnection process create significant opportunity for energy storage resources. As described more fully below, Order No. 845 reforms the *pro forma* interconnection agreements and procedures to include energy storage in its relevant definitions. The Order also allows customers to connect at less than nameplate capacity and to take advantage of excess interconnection capacity already available on the transmission system. Both of these developments are expected to benefit energy storage resources because they will allow those resources to pair with existing generation at a much lower cost. Similar to FERC's recent Order No. 841, with Order No. 845, FERC continues to unlock opportunities for energy storage to participate in the wholesale power markets. Order Nos. 841 and 845 are success stories for the burgeoning energy storage industry, moving this technology further into the mainstream of US electricity markets.

Despite Order No. 845's broad sweep, FERC considered, but ultimately did not advance, the proposed implementation of periodic restudies, the self-funding of network upgrades, the posting of congestion and curtailment information, and the modeling of electric storage. In sum, Order No. 845 streamlines and modernizes several aspects of the LGIP and LGIA but does not accommodate every proposed change in the NOPR. Synopses of the order's parameters are as follows:

ENHANCING INTERCONNECTION PROCESSES

1. Service Requests at a Threshold Below Generating Facility Capacity

Order No. 845 allows an interconnection customer to request interconnection service at a level lower than its nameplate generating facility capacity, recognizing the need for proper control technologies and levying penalties to ensure that the generating facility does not inject energy above the level of requested service.

This reform could be significant for energy storage as it would allow energy storage resources to more economically pair with renewable generation that typically does not use all of its nameplate capacity at all times during the day. Previously a 50 MW wind farm paired with a 25 MW storage facility would have been studied as a 75 MW unit and would have been required to pay for the upgrades necessary to interconnect a 75 MW facility to the grid. Under the new rules adopted in Order No. 845, the facility can agree to limit its output to 50 MW and therefore would only be required to pay for the upgrades necessary to interconnect a 50 MW facility to the grid.

[1] Accordingly, energy storage resources will be able to interconnect at the same site as new generation resources, with a minimum increase in interconnection costs. FERC also clarified that for the purpose of determining whether a facility falls under the LGIA or SGIA, definitions of "Large Generating Facility" and "Small Generating Facility" will continue to be based on the generating facility's total capacity and not on any limiting agreement. (Section IV.C.1).

2. Provisional Interconnection Service

The Order requires transmission providers to allow interconnection customers to enter into provisional agreements to begin operation up to a previously approved capacity level while awaiting the completion of the full interconnection process. This change allows interconnection customers to begin operating more quickly—up to a capacity level permitted by a previously conducted interconnection study. Given the ability of energy storage to develop quickly, the provisional service option could allow those resources to come on line quicker. [2] The transmission provider may require the interconnection customer to pay milestone payments before entering into the provisional agreement; however, once executed, the agreement will be in effect before the completion of final interconnection studies, the construction of network upgrades, or the execution of the LGIA. FERC believes that this reform will provide interconnection customers with "better information and more options for obtaining interconnection service." (Section IV.C.2).

3. Surplus Interconnection Service

Order No. 845 allows interconnecting generators to allow an affiliate to use any surplus capacity it has at an existing generating facility, or to sell surplus capacity to a third party. The results of these changes will allow an interconnection customer to use an existing resource's excess generation, thereby reducing overall costs. The Order requires transmission providers to establish a process for the use of surplus interconnection service and to include a description of how that process works. These changes will create opportunities for energy storage to pair with existing generation resources with excess interconnection capacity. Because these processes will occur outside the established interconnection queue process, storage resources should be able to interconnect quicker at these locations and to negotiate specific arrangements for interconnecting with the existing site owners. Notably, however, FERC did not adopt the proposal in the NOPR to add a new section to the pro forma LGIP that establishes an open and transparent solicitation process for surplus interconnection service. (Section IV.C.3).

4. New Technologies

The Order requires transmission providers to establish a "technological change procedure," which is a process in their LGIPs to study whether the transmission provider can accommodate proposed changes to technology used by an interconnecting generating facility without the proposed change being considered a material modification. Under the existing pro forma LGIP, an interconnection customer can modify its interconnection request while retaining its queue position if the transmission provider determines that the modifications are not material—defined under the LGIP as "those modifications that have a material impact on the cost or timing of any Interconnection Request with a later queue priority date." If the transmission provider determines that the modification is material, the interconnection customer is at risk of abandoning its modification or proceeding and losing its queue position. This new change requires transmission providers to develop a definition of permissible technological advancements, which by definition, would not be considered material. As a result, this change will further support developments in technology in the interconnection process.

PROMOTING MORE INFORMED INTERCONNECTION

5. Transparency

Order No. 845 requires transmission providers to make public their methods for determining contingent facilities, which include those interconnection facilities and network upgrades upon which the cost, timing, and study findings of an interconnection request depend. Order No. 845 adds a new section (3.8) to the LGIP, which requires transmission providers to publish their methods for identifying contingent facilities in their LGIPs. The Order also clarifies that the transmission provider must specify the list of contingent facilities at the close of the system impact study phase. Moreover, the transmission provider must estimate the interconnection facility and/or network upgrade costs, as well as the in-service completion time of each identified contingent facility as such information becomes "readily available." (Section IV.B.1).

6. Articulation of Processes and Assumptions

The Order requires transmission providers to list the processes and assumptions used in their interconnection studies. Transmission providers must include in the LGIP and on their websites (while providing a link to the location of the information on OASIS) the network models and assumptions used in their interconnection studies to evaluate the impact of interconnection requests. FERC's departure from the requirement for information to be located solely on OASIS was designed to "strike an appropriate balance by increasing transparency while also limiting the burden on transmission providers." (Section IV.B.2).

7. Incorporation of Energy Storage

The Order revises the definition of "generating facility" in the LGIP and LGIA to explicitly include electric storage resources. FERC noted that these revisions are consistent with provisions that are currently implemented in the pro forma SGIP and SGIA. (Section IV.B.4)

8. Reporting Requirements

The Order requires the reporting on aggregate interconnection study performance. It modifies the LGIP to require transmission providers to post interconnection study metrics on a quarterly basis. Transmission providers are free to post the information on their websites so long as a link to the information on OASIS is provided as well. (Section IV.B.5).

IMPROVED RELIABILITY FOR INTERCONNECTION CUSTOMERS

9. Interconnection Customers' Autonomy

Order No. 845's first order of business was to remove the limitation in Section 5 of the old LGIA. Previously, interconnection customers were only allowed to build interconnection facilities and to complete stand-alone network upgrades when transmission providers failed to meet the interconnection customers' proposed dates. Interconnection customers' reliance on the transmission providers' accommodation (or lack thereof) of requested completion dates has now been eliminated. FERC explains that this reform will provide interconnection customers greater control and certainty during the design and construction phases of the interconnection process. FERC also clarified that expanding the interconnection customers' option to build does not change the transmission providers' right to approve the engineering design, the equipment tests, and the construction of interconnection facilities and stand-alone network upgrades. (Section IV.A.2).

10. Dispute Resolutions

Order No. 845 requires transmission providers to establish interconnection dispute resolution procedures that

allow a disputing party unilaterally to seek nonbinding dispute resolution. This revises the existing dispute resolution provisions, which require the RTOs and ISOs to serve as neutral decision-makers when presiding over interconnection disputes. FERC found the previous dispute resolution procedures disproportionate and unreasonable, necessitating "generic reform both inside and outside RTOs/ISOs." Thus, Order No. 845 expands on the NOPR proposal to extend the nonbinding dispute resolution mechanism to all transmission providers, including nonRTOs/ISOs. (Section IV.A.4).

The Final Rule will be effective on July 23, 2018. K&L Gates will continue to monitor and to publish the outcomes of these reforms.

For more information about energy storage, please download our Energy Storage Handbook (Version 2.1), available [here](#).

Notes:

[1] Utility Dive, Peter Maloney, *FERC Order 845 Opens Door a Little Wider for Energy Storage*, <https://www.utilitydive.com/news/ferc-order-845-opens-door-a-little-wider-for-energy-storage/521992/> (April 23, 2018).

[2] GTM, Stephen Lacy, *Tesla's Giant Australian Battery Is Proof That Energy Storage Is Coming of Age*, <https://www.greentechmedia.com/articles/read/teslas-giant-australian-battery-proves-storage-is-coming-of-age#gs.9ZgxvS0> (December 1, 2017). GTM, Julian Spector, *Arizona Is Getting Its First Standalone Battery Peaker*, <https://www.greentechmedia.com/articles/read/arizona-is-getting-its-first-standalone-battery-peaker#gs.lpjXXK8> (May 30, 2018).

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