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Energy Storage to Benefit from FERC's Recent Large Generator Interconnection Reforms

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Need for Reform

Driven in part by "low natural gas prices, technological advances, and federal and state policies," the rapid rate of new energy projects seeking interconnection has caused a variety of concerns since FERC's last major large generator interconnection reforms.[1] These include "significant backlogs" in certain interconnection queues and "increased network upgrade cost responsibility for lower-queued interconnection customers" stemming from late-stage withdrawals.[2] Such concerns apply not only for conventional generation resources, but also to advanced energy storage technologies, which can provide both generation and transmission services (i.e., can inject or withdraw power, as well as provide other grid support services), co-locate with existing generation, and, unlike some conventional generation, are capable of instantaneously responding to changes on the system.

Ultimately, the Commission found that the uncertainty in cost and timing resulting from such concerns "may hinder the timely development of new generation [and] stifle competition in the wholesale markets," thereby "resulting in rates, terms, and conditions that are not just and reasonable or are unduly discriminatory or preferential."[3] The reforms in Order No. 845 are therefore intended to "improve certainty for interconnection customers, promote more informed interconnection decisions, and enhance the interconnection process"[4] for all large Generating Facilities, which now expressly include energy storage resources.

Energy Storage-Related Reforms

Order No. 845 builds upon the Commission's recent efforts to eliminate barriers to wholesale electricity market participation for energy storage resources, which we detailed here and here. Below we address several of the Order No. 845 reforms likely to have the greatest impact on energy storage:

- Express Inclusion of Energy Storage in the Definition of "Generating Facility"

The Commission proposed to revise the definition of "Generating Facility" in the *pro forma*LGIP and LGIA to include electric storage resources,[5] noting that while it has already done so for facilities smaller than 20 MW, and "[a]lthough some transmission providers have [already] extended the clarification for electric storage resources to large generating facilities, doing so consistently may ensure that all transmission providers have interconnection procedures and agreements that are applicable to FERC-jurisdictional electric storage resources, regardless of size."[6]

Accordingly, FERC revised the definition of "Generating Facility" in the *pro forma* LGIP and LGIA to mean an "Interconnection Customer's device for the production *and/or storage for later injection* of electricity," making it applicable to any energy storage resource with a capacity of more than 20 MW that wishes to interconnect pursuant to the *pro forma*LGIP and LGIA.[7] Of note, the Commission clarified that this definitional change "would not affect whether [such] electric storage resources [also] operate as transmission assets," given that it "previously has found that, in certain situations, electric storage resources can function as a generating facility, a transmission asset, or both."[8] Thus, the revised definition should "reduce a potential barrier to large electric storage resources" over 20 MW seeking interconnection under the *pro forma*LGIP and LGIA.[9]

- Requests for Interconnection Service Below a Generating Facility's Capacity

The Commission also "proposed to modify the *pro forma* LGIP to allow interconnection customers to request interconnection service that is lower than full generating facility capacity, recognizing the need for proper control technologies and [potential] penalties to ensure that the generation facility does not inject energy above the requested level of service."[10] As certain commenters highlighted, because energy storage resources may not always "plan to use the maximum power rating of their facilities," this would allow, among other things, energy storage resources "to use spare interconnection service to repower existing conventional generators or firm the deliveries of variable generators."[11]

The Commission adopted this proposed reform, noting that it would "provide . . . desired flexibility for interconnection customers while allowing transmission providers to ensure reliability,"[12] and requiring, among other things, that "any interconnection customer that seeks interconnection service below its generating facility capacity install appropriate monitoring and control technologies at its generating facility"[13] to prevent over-injection of energy onto the grid. The Commission, however, declined to "generically adopt into the *pro forma* LGIP any additional financial penalties for exceeding the limitations for interconnection service established in the interconnection agreements," finding that "current provisions in the *pro forma* LGIA, which allow a transmission provider to curtail service or terminate an LGIA, are sufficient to ensure proper behavior by interconnection customers."[14]

- Utilization or Transfer of "Surplus Interconnection Service"

Under current practice, the Commission explained, "even if a generating facility . . . routinely operates at a level below its maximum capacity, the remaining, unused interconnection service is assumed to be unavailable to other prospective interconnection customers" for the purposes of studying new interconnection requests.[15] However, the Commission in Order No. 845 found that, "where proper precautions are taken to ensure system reliability, it would be unjust and unreasonable to deny an original interconnection customer the ability either to transfer or use for another resource surplus interconnection service."[16]

Accordingly, to facilitate the beneficial use of such surplus interconnection service, whether by an existing interconnection customer *or* an affiliate or non-affiliated third party, the Commission revised the *pro forma*LGIP and LGIA to "requir[e] transmission providers to establish an expedited process, separate from the interconnection queue, for the use of surplus interconnection service," with such service "not [to] exceed the maximum level allowed under the original interconnection customer's LGIA."[17] The Commission also noted that, "to avoid abuse of this reform, which is intended to increase utilization of existing, underutilized interconnection service provided at a particular point of interconnection, [it is] restricting surplus interconnection service when new interconnection service would be more appropriate."[18] However, the Commission declined to require "an open and transparent solicitation process for surplus interconnection service," finding competitive solicitation unnecessary "to achieve [the Commission's] overall open access goals."[19]

This reform should, among other things, open additional opportunities for energy storage resources to co-locate with existing generation, thereby providing another path for wholesale market participation.

- Provisional Interconnection Service

The Commission also "proposed to allow interconnection customers to enter into provisional agreements for limited interconnection service prior to the completion of the full interconnection process," which would enable "interconnection customers with provisional agreements . . . to begin operation [of Generating Facilities] up to the MW level permitted by a previously conducted, readily available interconnection study . . . , additional studies as necessary, and regularly updated studies."[20]

In Order No. 845, the Commission revised the *pro forma*LGIP and LGIA such that "interconnection customers may seek provisional interconnection service when available studies or additional studies as necessary indicate that . . . a level of interconnection . . . can occur without any additional interconnection facilities and/or network upgrades and the interconnection customer wishes to make use of that level of interconnection service while the facilities required for its full interconnection request are completed."[21] As the Energy Storage Association explained in its comments, this reform may be especially beneficial to energy storage resources because it "will enable grid operators to benefit from the short deployment timelines of storage facilities, which generally outpace regular interconnection processes."[22]

- No Uniform Modeling of Energy Storage Resources for Interconnection Studies

The Commission had also proposed to "require transmission providers to evaluate their methods for modeling electric storage resources for interconnection studies and report to the Commission why and how their existing practices are or are not sufficient,"[23] and "sought comment on whether . . . a unified model for studying electric storage resources would expedite the study process," thereby "reduc[ing] time and costs expended by transmission providers."[24] However, the Commission ultimately declined to move forward with such reform.[25]

The Commission explained that, "given the limited experience interconnecting electric storage resources and the abundant desire for regional flexibility, we are not imposing any standard requirements at this time and instead continue to allow transmission providers to

model electric storage resources in ways that are most appropriate in their respective regions."[26] The Commission also declined to "requir[e] Transmission Providers to model electric storage resources serving as transmission assets under the *pro forma* LGIP and the *pro forma* LGIA."[27]

What's Next?

Order No. 845 becomes effective July 23, 2018.[28] Regional transmission organizations and independent system operators (RTOs/ISOs) will work through their respective stakeholder processes to implement the directed reforms, with compliance filings currently due to FERC on November 5, 2018.[29] Energy storage project developers should closely watch the development of these stakeholder processes and the subsequent RTO/ISO proceedings at FERC—and participate as necessary to protect their interests—as well as watch for action on the numerous requests for rehearing and/or clarification of Order No. 845 currently pending before FERC, which could result in changes to certain of the pro-energy storage reforms.

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[1] *See* Order No. 845 at PP 23-25.

[2] *Id.* P 24.

[3] *Id.* P 25.

[4] *Id*. P 2.

[5] *Id.* P 273.

[6] *Reform of Generator Interconnection Procedures and Agreements*, 157 FERC ¶ 61,212, at P 135 (2016).

[7] Order No. 845 at PP 275, 279.

[8] *Id.* P 278 (citations omitted).

[9] *Id.* P 275.

[10] *Id.* P 343.

[11] *Id.* PP 353-354.

[12] *Id.* P 369.

[13] *Id.* P 396.

[14] *Id.* P 416.

[15] *Id.* P 468.

[16] *Id.* P 471.

[17] *Id.* PP 467, 475.

[18] *Id.* P 473.

[19] *Id.* PP 467, 481.

[20] *Id.* P 424.

[21] *Id.* PP 438, 441.

[22] *See* Energy Storage Ass'n, Comments, Docket No. RM17-8-000, at 16 (filed Apr. 13, 2017).

[23] Order No. 845 at P 21.

[24] *Id.* P 537.

[25] *Id.* P 544.

[26] *Id.*

[27] *Id.*

[28] *Reform of Generator Interconnection Procedures and Agreements*, 83 Fed. Reg. 21,342 (May 9, 2018).

[29] *Reform of Generator Interconnection Procedures and Agreements*, Notice of Extension of Compliance Date, Docket No. RM17-8-000 (June 1, 2018).

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