

PRATT'S

ENERGY LAW

REPORT



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ISBN: 978-1-6328-0836-3 (print) ISBN: 978-1-6328-0837-0 (ebook)

ISSN: 2374-3395 (print) ISSN: 2374-3409 (online)

Cite this publication as:

[author name], [article title], [vol. no.] Pratt's Energy Law Report [page number] (LexisNexis A.S. Pratt);

Ian Coles, Rare Earth Elements: Deep Sea Mining and the Law of the Sea, 14 Pratt's Energy Law Report 4 (LexisNexis A.S. Pratt)

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An A.S. Pratt® Publication

Editorial Office 230 Park Ave., 7th Floor, New York, NY 10169 (800) 543-6862 www.lexisnexis.com

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POSTMASTER: Send address changes to Pratt's Energy Law Report, LexisNexis Matthew Bender, 121 Chanlon Road, North Building, New Providence, NJ 07974.

U.S. Federal Energy Regulatory Commission Proposes Removing Barriers to Electric Storage Resources and Distributed Energy Resource Aggregation

By J. Paul Forrester*

The author of this article explains a recent Federal Energy Regulatory Commission notice of proposed rulemaking that proposes amendments to its regulations under the Federal Power Act to remove barriers to the participation of electric storage resources and distributed energy resource aggregation in the capacity, energy, and ancillary service markets operated by regional transmission organizations and independent system operators.

The U.S. Federal Energy Regulatory Commission ("FERC") recently issued a notice of proposed rulemaking¹ ("NOPR") that proposes amendments to its regulations under the Federal Power Act to remove barriers to the participation of electric storage resources² and distributed energy resource³ aggregation in the capacity, energy and ancillary service markets (organized wholesale electric markets) operated by regional transmission organizations ("RTO") and independent system operators ("ISO").

THE PROPOSED RULE

Specifically, FERC proposes to require each RTO and ISO to revise its tariff to (1) establish a participation model consisting of market rules that, recognizing the physical and operational characteristics of electric storage

^{*} J. Paul Forrester is a partner at Mayer Brown LLP concentrating his practice on corporate finance and securities law with an emphasis on structured credit, including collateralized loan obligations, energy (including oil and gas, utilities, shipping, refinery and pipeline) financings and project development, and financing (especially concerning renewable energy, industrial, petrochemical, power and transportation projects and infrastructure). He may be reached at iforrester@mayerbrown.com.

https://www.ferc.gov/whats-new/comm-meet/2016/111716/E-1.pdf.

² FERC defines an electric storage resource as a resource capable of receiving electric energy from the grid and storing it for later injection of electricity back to the grid regardless of where the resource is located on the electrical system. These resources include all types of electric storage technologies, regardless of their size, storage medium (e.g., batteries, flywheels, compressed air, pumped-hydro, etc.), or whether located on the interstate grid or on a distribution system.

³ FERC defines distributed energy resources as a source or sink of power that is located on the distribution system, on any subsystem thereof, or behind a customer meter. These resources may include, but are not limited to, electric storage resources, distributed generation, thermal storage, and electric vehicles and their supply equipment.

resources, accommodates their participation in the organized wholesale electric markets; and (2) define distributed energy resource aggregators as a type of market participant that can participate in the organized wholesale electric markets under the participation model that best accommodates the physical and operational characteristics of its distributed energy resource aggregation.

As the capabilities of electric storage resources and distributed energy resources have continued to improve and their related costs have continued to decline, FERC has become concerned that these resources may face barriers that limit them from participating in organized wholesale electric markets. To further examine this issue, FERC hosted a panel to discuss electric storage resources at its November 19, 2015, meeting. Then, on April 11, 2016, FERC staff issued data requests to each of the six RTOs/ISOs, seeking information about the rules in the organized wholesale electric markets that affect the participation of electric storage resources ("Data Requests").4 Concurrently, FERC staff issued a Request for Comments on whether barriers exist to the participation of electric storage resources in the organized wholesale electric markets that may lead to unjust and unreasonable wholesale rates.

The NOPR notes that some RTOs and ISOs have taken action to allow distributed energy resources, including electric storage resources, to participate in organized wholesale electric markets, but have done so in different ways and with varied success. FERC notes in the NOPR that market rules designed for traditional generation can create barriers to entry for emerging technologies and that the development of energy storage and distributed energy resources has occurred after the development of many current market rules, which may not recognize the operational characteristics of energy storage resources, thereby resulting in an inefficient use of such resources (i.e., electric storage resources may be dispatched to provide one service when they could, absent market rule limitations, provide another service more economically). As a result, resources, including electric storage resources, do not get dispatched efficiently, thereby impacting the competitiveness of the market outcomes. Limiting the services that an electric storage resource is eligible to provide and limiting the efficiency in which it is dispatched to provide services may also inhibit developers'

⁴ Specifically, FERC staff requested information related to (1) the eligibility of electric storage resources to participate in the capacity, energy and ancillary service markets in the RTOs/ISOs; (2) the technical qualification and performance requirements for market participants; (3) the bidding parameters for different types of resources; (4) opportunities for distribution-level and aggregated electric storage resources to participate in the organized wholesale electric markets; (5) the treatment of electric storage resources when they are receiving electricity for later injection to the grid; and (6) any forthcoming rule changes or other stakeholder initiatives that may affect the participation of electric storage resources in the organized wholesale electric markets.

incentives to design their electric storage resources to provide all of the capacity, energy and ancillary services these resources could otherwise provide. This disincentive further reduces competition for providing those services in the organized wholesale electric markets. Effective integration of electric storage resources into the organized wholesale electric markets would enhance competition and, in turn, help to ensure that these markets produce just and reasonable rates.

Similarly, FERC is concerned that existing RTO/ISO tariffs impede the participation of distributed energy resources in the organized wholesale electric markets by providing limited opportunities for distributed energy resource aggregations. Distributed energy resources include a variety of constantly evolving technologies (including, but not limited to, electric storage resources, distributed generation, thermal storage, and electric vehicles and their supply equipment) that are connected to the power grid at distribution-level voltages. While these distributed energy resources can at times effectively supply the capacity, energy and ancillary services that are exchanged in the organized wholesale electric markets, at other times they can be too small to participate in these markets individually. In addition, responses to the Data Requests and Request for Comments demonstrate that current organized wholesale electric market rules often limit their effective participation or impose prohibitively expensive or otherwise burdensome requirements.

CONCLUSION

The participation model proposed by the NOPR must:

- ensure that electric storage resources are eligible to provide all capacity, energy and ancillary services that they are technically capable of providing in the organized wholesale electric markets;
- incorporate bidding parameters⁵ that reflect and account for the physical and operational characteristics of electric storage resources;
- ensure that electric storage resources can be dispatched and can set the
 wholesale market clearing price as both a wholesale seller and wholesale
 buyer, consistent with existing market rules that govern when a resource
 can set the wholesale price;
- establish a minimum size requirement for participation in the organized

⁵ FERC refers to bidding parameters as the physical and operational constraints that a resource would identify per RTO/ISO requirements when submitting offers to sell capacity, energy, or ancillary services or bids to buy energy in the organized wholesale electric markets. Commission staff referred to these as "bid parameters" in the Data Requests and Request for Comments issued on April 11, 2016, in Docket No. AD16-20-000.

Removing Barriers to Electric Storage Resources

- wholesale electric markets that does not exceed 100 kW; and
- specify that the sale of energy from the organized wholesale electric markets to an electric storage resource that the resource then resells back to those markets must be at the wholesale locational marginal price (LMP).

Comments on the NOPR were due 60 days from publication thereof in the Federal Register.