UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

18 CFR Part 35
[Docket Nos. RM16-23-001; AD16-20-001; Order No. 841-A]

Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators

(Issued May 16, 2019)

AGENCY: Federal Energy Regulatory Commission.

ACTION: Order on Rehearing and Clarification.

SUMMARY: The Federal Energy Regulatory Commission addresses petitions for rehearing and clarification and generally affirms its determinations in Order No. 841, amending its regulations under the Federal Power Act to remove barriers to the participation of electric storage resources in the capacity, energy, and ancillary service markets operated by Regional Transmission Organizations and Independent System Operators.

EFFECTIVE DATE: This order on rehearing and clarification will become effective **[INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

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ORDER NO. 841-A

ORDER ON REHEARING AND CLARIFICATION

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167 FERC ¶ 61,154
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;
Cheryl A. LaFleur, Richard Glick,
and Bernard L. McNamee.

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ORDER NO. 841-A

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I. Introduction

1. On February 15, 2018, the Federal Energy Regulatory Commission (Commission) issued Order No. 841, which established reforms to remove barriers to the participation of electric storage resources[1] in the Regional Transmission Organization and Independent System Operator markets (RTO/ISO markets).[2] The Commission found that existing RTO/ISO market rules are unjust and unreasonable in light of barriers that they present to

[1] *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841, 162 FERC ¶ 61,127, at P 1 (2018). Order No. 841 defined an electric storage resource as a resource capable of receiving electric energy from the grid and storing it for later injection of electric energy back to the grid. *Id.* P 1 n.1.

[2] For purposes of Order No. 841, the Commission defined RTO/ISO markets as the capacity, energy, and ancillary services markets operated by the RTOs and ISOs. *Id.* P 1 n.2.

(continued ...)

the participation of electric storage resources in the RTO/ISO markets, thereby reducing competition and failing to ensure just and reasonable rates.[3] To help ensure that the RTO/ISO markets produce just and reasonable rates, pursuant to the Commission's legal authority under Federal Power Act (FPA) section 206,[4] the Commission in Order No. 841 modified §35.28 of the Commission's regulations[5] to require each RTO/ISO to revise its tariff to establish market rules that, recognizing the physical and operational characteristics of electric storage resources, facilitate their participation in the RTO/ISO markets.[6]

2. More specifically, Order No. 841 required each RTO/ISO to revise its tariff to establish a participation model consisting of market rules that, recognizing the physical and operational characteristics of electric storage resources, facilitates their participation in the RTO/ISO markets.[7] For each RTO/ISO, the tariff provisions for the participation

[3] *Id.* P 1.

[4] 16 U.S.C. 824e (2012).

[5] 18 CFR 35.28 (2018).

[6] Order No. 841, 162 FERC ¶ 61,127 at P 1.

[7] *Id.* P 3. In Order No. 841, the Commission used the term "participation model" to refer to distinct tariff provisions that an RTO/ISO creates for a particular type of resource when that type of resource has unique physical and operational characteristics or other attributes that warrant distinctive treatment from other market participants. The Commission further explained that it was requiring a participation model for electric storage resources that will help facilitate the participation of electric storage resources in the RTO/ISO markets. *Id.*

(continued ...)

model for electric storage resources must (1) ensure that a resource using the participation model for electric storage resources is eligible to provide all capacity, energy, and ancillary services that it is technically capable of providing in the RTO/ISO markets; (2) ensure that a resource using the participation model for 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; (3) account for the physical and operational characteristics of electric storage resources through bidding parameters or other means; and (4) establish a minimum size requirement for participation in the RTO/ISO markets that does not exceed 100 kW.[8] Additionally, Order No. 841 directed each RTO/ISO to specify that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets must be at the wholesale locational marginal price (LMP).

3. The following petitioners filed timely requests for rehearing or rehearing and clarification of Order No. 841: AES Companies; American Municipal Power, Inc., American Public Power Association, and National Rural Electric Cooperative Association (collectively, AMP/APPA/NRECA); California Energy Storage Alliance; California Independent System Operator Corporation (CAISO); Edison Electric Institute (EEI); Midcontinent Independent System Operator, Inc. (MISO); National Association of

[8] *Id.* P 4.

(continued ...)

Regulatory Utility Commissioners (NARUC); Transmission Access Policy Study Group (TAPS); and Xcel Energy Services Inc. (Xcel Energy Services).[9] Organization of MISO States; Pacific Gas and Electric Company; PJM Interconnection, L.L.C. (PJM); and Southwest Power Pool, Inc. (SPP) filed requests for clarification. For the reasons discussed below, we deny the requests for rehearing and deny in part and grant in part the requests for clarification.

4. Specifically, we grant SPP's request for clarification that Order No. 841 does not require an RTO/ISO to create and provide a capacity product that an RTO/ISO market does not otherwise offer. We also grant PJM's request for clarification that the Final Rule allows for flexibility in how RTOs/ISOs account for the physical and operational characteristics of electric storage resources, including State of Charge. We further grant EEI's request to clarify that the Commission will not dismiss as per se unreasonable any proposal to establish a non-facility-specific rate for wholesale distribution service to an electric storage resource for its charging. We also grant CAISO's request to clarify that an RTO/ISO could require verification from the host distribution utility that it is unable or unwilling to net wholesale demand from retail settlement before the RTO/ISO ceases to settle an electric storage resource's wholesale demand at the wholesale LMP. Finally, we grant clarification of the Commission's finding that applicable transmission charges

[9] Advanced Energy Economy, Energy Storage Association, and Monitoring Analytics, LLC acting in its capacity as the Independent Market Monitor for PJM filed answers to the requests for rehearing or clarification. Rule 713(d)(1) of the Commission's Rules of Practice and Procedure, 18 CFR 385.713(d)(1), prohibits an answer to a request for rehearing. Accordingly, we reject these answers.

should apply when an electric storage resource is charging to resell energy at a later time. We also modify § 35.28(g)(9)(i)(B) of the Commission's regulations to clarify that each RTO/ISO is required to allow resources using the participation model for electric storage resources to participate in the RTO/ISO markets as dispatchable resources, not that such resources are required to be dispatchable to use that participation model.

II. Discussion

A. Definition of Electric Storage Resource

1. Final Rule

5. In Order No. 841, the Commission revised § 35.28(b) of the Commission's regulations to define an electric storage resource as "a resource capable of receiving electric energy from the grid and storing it for later injection of electric energy back to the grid."[10] The Commission stated that this definition is intended to cover electric storage resources capable of receiving electric energy from the grid and storing it for later injection of electric energy back to the grid, regardless of their storage medium (e.g., batteries, flywheels, compressed air, and pumped-hydro). Additionally, the Commission stated that electric storage resources located on the interstate transmission system, on a distribution system, or behind the meter fall under this definition. The Commission stated that, by including all electric storage technologies, and by allowing resources that are interconnected to the transmission system, distribution system, or behind the meter to

[10] Order No. 841, 162 FERC ¶ 61,127 at P 29.

(continued ...)

use the participation model for electric storage resources, the Commission was ensuring that the market rules will not be designed for any particular electric storage technology.[11]

6. The Commission observed that an electric storage resource that injects electric energy back to the grid for purposes of participating in an RTO/ISO market engages in a sale of electric energy at wholesale in interstate commerce.[12] As a result, the Commission found that such an electric storage resource must fulfill certain responsibilities set forth in the FPA and the Commission's rules and regulations.[13]

7. The Commission disagreed with commenters who asserted that the definition of an electric storage resource should be limited to those electric storage resources that are interconnected to the transmission system.[14] The Commission found that electric storage resources interconnected to the distribution system are already participating in the

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[11] *Id.*

[12] *Id.* P 30. The Commission also observed that injections of electric energy back to the grid do not necessarily trigger the Commission's jurisdiction. *Id.* n.49 (citing *Sun Edison LLC*, 129 FERC ¶ 61,146 (2009), *reh'g granted on other grounds*, 131 FERC ¶ 61,213 (2010) (the Commission's jurisdiction would arise only when a facility operating under a state net metering program produces more power than it consumes over the relevant netting period); *MidAmerican Energy Co.*, 94 FERC ¶ 61,340 (2001)).

[13] *Id.* P 30. The Commission provided the following examples of such responsibilities: filing rates under FPA section 205 (potentially including obtaining market-based rate authority); submitting FPA sections 203 and 204 filings related to corporate mergers and other activities; and fulfilling FPA section 301 accounting obligations and FPA section 305(b) interlocking directorate obligations. *Id.* (citing 16 U.S.C. 824b, 824c, 824d, 825, 825d(b)).

[14] *Id.* P 31.

(continued ...)

RTO/ISO markets[15] and that they should continue to be able to do so. The Commission stated that such a limitation also would be inconsistent with the participation of other types of resources because various types of traditional generation and demand-side resources that are not connected directly to the transmission system currently participate in the RTO/ISO markets.

8. The Commission also explained that, by "capable of … later injection of electric energy back to the grid," it meant that the electric storage resource is both physically designed and configured to inject electric energy back onto the grid and, as relevant, is contractually permitted to do so (e.g., per the interconnection agreement between an electric storage resource that is interconnected on a distribution system or behind-the-meter with the distribution utility to which it is interconnected).[16] Consequently, the Commission found that the definition of an electric storage resource excludes a resource that is either (1) physically incapable of injecting electric energy back onto the grid due to its design or configuration or (2) contractually barred from injecting electric energy back onto the grid. Further, the Commission explained that Order No. 841 requires each RTO/ISO to implement market rules applicable to electric storage resources, as defined

[15] *Id.* (citing *PJM Interconnection L.L.C.,* 149 FERC ¶ 61,185 (2014), *order on reh'g*, 151 FERC ¶ 61,231 (2015)).

[16] *Id.* P 33.

(continued ...)

therein, that voluntarily seek to participate in the RTO/ISO markets; Order No. 841 does not require electric storage resources to participate in those markets.[17]

9. The Commission stated that it has exclusive jurisdiction over the wholesale markets and the criteria for participation in those markets, including the wholesale market rules for participation of resources connected at or below distribution-level voltages.[18] The Commission also noted its understanding that numerous resources connected to the distribution system participate in the RTO/ISO markets today.[19] Under those circumstances, the Commission was not persuaded to grant commenters' request that the Commission allow states to decide whether electric storage resources in their state that are located behind a retail meter or on the distribution system are permitted to participate in the RTO/ISO markets through the electric storage resource participation model.

10. That said, the Commission emphasized the ongoing, vital role of the states with respect to the development and operation of electric storage resources.[20] The

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[17] *Id.* P 35.

[18] *Id.* (citing *FERC v. Elec. Power Supply Ass'n*, 136 S. Ct. 760 (2016) (*EPSA*); *Advanced Energy Economy*, 161 FERC ¶ 61,245, at PP 59-60 (2017) (*AEE*), *reh'g denied*, 163 FERC ¶ 61,030 (2018) (AEE Rehearing Order)).

[19] *Id.* (citing *Southern California Edison Co.*, Docket No. ER10-1356-000 (2010) (accepting Southern California Edison's Wholesale Distribution Access Tariff); *PJM Interconnection, L.L.C.*, Docket No. ER11-3148-000 (2011) (delegated letter order) (accepting Wholesale Market Participation Agreement among PJM, CleanLight Power, L.L.C. and Public Service Electric and Gas Company); PJM Manual 14C, section 1.3 (discussing requirements of Wholesale Market Participation Agreements)).

[20] *Id.* P 36.

(continued ...)

Commission noted that such state responsibilities include, among other things, retail services and matters related to the distribution system, including design, operations, power quality, reliability, and system costs. The Commission added that nothing in Order No. 841 was intended to affect or implicate the responsibilities of distribution utilities to maintain the safety and the reliability of the distribution system or their use of electric storage resources on their systems. Further, in Order No. 841, the Commission added § 35.28(g)(9)(ii) to the Commission's regulations to require that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.[21]

2. Requests for Rehearing or Clarification

11. Petitioners raise several issues concerning the Commission's authority with respect to electric storage resources' participation in RTO/ISO markets. First, some petitioners contend that the Commission must, or should, provide relevant electric retail regulatory authorities (RERRA) with an electric storage resource opt-out similar to that afforded for demand response in Order No. 719. Second, petitioners raise concerns about the Commission's authority to require that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.

[21] The substantive requirements of this determination are discussed further in section II.G. (Energy Used to Charge Electric Storage Resources).

(continued ...)

12. Several petitioners[22] ask the Commission to grant rehearing or clarification of the Commission's denial of requests to "allow states to decide whether electric storage resources in their state that are located behind a retail meter or on the distribution system are permitted to participate in the RTO/ISO markets through the electric storage resource participation model."[23] Generally, these petitioners contend that the Commission's decision to decline to adopt an electric storage resource opt-out is a violation of FPA section 201, which expressly excludes from Commission jurisdiction retail electric service and facilities for the local distribution of electric energy.[24] Petitioners also cite to the Commission's demand response rule in Order No. 719 and the U.S. Supreme Court's decision in *EPSA* to support their proposition that the Commission must adopt an electric storage resource opt-out.[25]

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[22] *See e.g.*, AMP/APPA/NRECA; EEI; NARUC; Organization of MISO States; TAPS; and Xcel Energy Services.

[23] Order No. 841, 162 FERC ¶ 61,127 at P 35 (referred to herein as the decision not to adopt an "electric storage resource opt-out").

[24] *See, e.g.*, AMP/APPA/NRECA Rehearing Request at 8 (citing 16 U.S.C. 824(b); NARUC Rehearing Request at 3 (citing 16 U.S.C. 824(b), 824o(i); *Cal. Indep. Sys. Operator Corp. v. FERC*, 372 F.3d 395, 398-99 (D.C. Cir. 2004)); Xcel Energy Services Rehearing Request at 8.

[25] *See Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, 125 FERC ¶ 61,071 (2008), *order on reh'g*, Order No. 719-A, 128 FERC ¶ 61,059, *order on reh'g*, Order No. 719-B, 129 FERC ¶ 61,252 (2009); *EPSA*, 136 S. Ct. 760.

(continued ...)

a. Whether the Commission is Required to Adopt an Opt-out

13. AMP/APPA/NRECA ask the Commission to grant rehearing and declare that Order No. 841 is limited to RTO/ISO market rules, and nothing in Order No. 841 overrides state laws or tariff requirements that might prohibit or limit an electric storage resource interconnected with the distribution system or behind a retail meter from directly accessing the wholesale market.[26] They assert that the Commission does not have authority to disregard or override state and local restrictions on the participation of distribution-level and behind-the-meter electric storage resources in wholesale markets because FPA section 201(b) reserves to the states the regulation of retail service and specifically excludes local distribution facilities from the Commission's jurisdiction.[27] They further argue that the Commission lacks authority to compel entities exempt from the Commission's rate jurisdiction under FPA section 201(f), such as public power and cooperative utilities, to allow retail behind-the-meter electric storage resources to participate in wholesale markets.[28] They contend that, while certain distribution-connected resources may participate in wholesale markets, the Commission has indicated that "the vast majority of small generator interconnections will be with state jurisdictional

[26] AMP/APPA/NRECA Rehearing Request at 8.

[27] *Id.* at 9 (citing 16 U.S.C. 824(b)(1); *EPSA*, 136 S. Ct. at 775).

[28] *Id.* at 9 n.25.

(continued ...)

facilities" and that such interconnections will be governed by state law.[29] Therefore, they argue that the Commission has exceeded its authority if Order No. 841 indicates that an electric storage resource taking retail service from a distribution utility may disregard retail service terms and conditions that limit direct participation in the wholesale market.[30]

14. TAPS similarly asserts that states' exclusive jurisdiction to set the terms and conditions of retail service includes conditioning receipt of retail service on the customer's agreement as to whether and how to interconnect behind-the-meter resources and what the customer may do with such resources.[31] Xcel Energy Services contends that granting rehearing would not allow states to change the Commission's criteria for participating in wholesale markets, but would require electric storage resources connected at the distribution level or behind the meter to also ensure that their activities are in accordance with state legal requirements governing retail sales and use of the distribution system.[32]

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[29] *Id.* at 9 (citing S*tandardization of Small Generator Interconnection Agreements and Procedures,* Order No. 2006-A, 113 FERC ¶ 61,195, at P 105 (2005), *clarified*, Order No. 2006-B, 116 FERC ¶ 61,046 (2006), *corrected*, 71 FR 53,965 (Sept. 13, 2006)).

[30] *Id.* at 9.

[31] TAPS Rehearing Request at 7-8.

[32] Xcel Energy Services Rehearing Request at 6-7.

(continued ...)

15. Some petitioners argue that, while the Commission cites *EPSA*[33] for the proposition that it "has exclusive jurisdiction over the wholesale markets and the criteria for participation in those markets,"[34] *EPSA* does not support the Commission's decision not to adopt an electric storage resource opt-out.[35] AMP/APPA/NRECA assert that (1) *EPSA* concerned federal authority to regulate wholesale demand response compensation, not state authority over demand response resource participation,[36] (2) the Order No. 719 opt-out rules were not at issue in *EPSA* because the Supreme Court treated those rules as an established part of the regulatory framework for demand response,[37] and (3) the authority of states to veto retail customer participation in demand response aggregations was a reason for the Court's finding that the Commission did not improperly intrude on states' jurisdiction over retail sales.[38] NARUC argues that, while *EPSA* supports the assertion that the Commission may determine *how* resources participate in the RTO/ISO

[33] 136 S. Ct. 760.

[34] Order No. 841, 162 FERC ¶ 61,127 at P 35.

[35] *See, e.g.*, AMP/APPA/NRECA, NARUC, and Xcel Energy Services.

[36] AMP/APPA/NRECA Rehearing Request at 10-11 (citing Order No. 841, 162 FERC ¶ 61,127 at P 35; *EPSA*, 136 S. Ct. at 773).

[37] *Id.* at 11 (citing *EPSA*, 136 S. Ct. at 771, 772, 779-80). They assert that the Court had no reason to address and did not address the scope of the Commission's authority to determine which demand response resources are eligible to participate in the wholesale market in the first place, nor did it suggest that the Commission may override retail service terms and conditions that might restrict or condition such eligibility. *Id.*

[38] *Id.* (citing *EPSA*, 136 S. Ct. at 779-80).

(continued ...)

markets because the Commission has the authority to determine how prices are set, *EPSA* does not support the finding that states cannot determine *whether* resources can participate in the RTO/ISO markets.[39]

16. Xcel Energy Services claims that the Supreme Court permitted the Commission's demand response pricing changes in *EPSA* because, there, the Commission addressed only "transactions occurring on the wholesale market," and "every aspect of the regulatory plan happen[ed] exclusively on the wholesale market and govern[ed] exclusively that market's rules."[40] Xcel Energy Services argues that, unlike the indirect effects on retail sales that the Supreme Court permitted in *EPSA*, Order No. 841 directly affects retail sales because it allows distribution-connected and behind-the-meter electric storage resources to make wholesale sales *and purchases*, which fundamentally changes how retail sales occur and directly interferes with a state's ability to regulate retail sales.[41] For instance, Xcel Energy Services argues that, if a retail customer sells into the wholesale market and sells more than it purchases for the applicable billing period, then what had previously been a retail sale by the distribution company is now a wholesale sale within the Commission's jurisdiction.[42] Xcel Energy Services adds that, because

[39] NARUC Rehearing Request at 6 (citing *EPSA*, 136 S. Ct. at 771, 773, 780).

[40] Xcel Energy Services Rehearing Request at 7 (citing *EPSA*, 136 S. Ct. at 764, 777).

[41] *Id.* at 7.

[42] *Id.* at 8 (citing Order No. 841, 162 FERC ¶ 61,127 at P 289 ("The Commission has found that the sale of energy from the grid that is used to charge electric storage *(continued ...)*

Order No. 841 entitles an electric storage resource to purchase at wholesale from the RTO/ISO market, Order No. 841 removes what was previously a franchised retail sale by the distribution provider, which could preempt the distribution utility's state-granted franchise.[43] Xcel Energy Services also claims that, unlike Order No. 745, which was at issue in *EPSA*, Order No. 841 will require distribution utilities to establish extensive and expensive processes to assist the market participation of distribution-connected and behind-the-meter electric storage resources, including (1) processes that allow electric storage resources to use their wires to transmit energy to and from the electric transmission grid, and (2) processes to separately track retail and wholesale sales and purchases.[44] Xcel Energy Services further argues that Order No. 841 will require distribution providers to manage both state-regulated and Commission-jurisdictional interconnections, interfere with state regulation of distribution system reliability, permit resources to cycle in and out of state jurisdiction, and force states to accommodate the Commission's electric storage policy.[45]

17. Some petitioners further argue that the Commission's decision not to adopt an opt-out is inconsistent with other provisions of Order No. 841 that, according to petitioners,

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resources for later resale into the energy or ancillary service markets constitutes a sale for resale in interstate commerce.")).

[43] *Id.* at 8-9 (citing Order No. 841, 162 FERC ¶ 61,127 at P 56).

[44] *Id.* at 9.

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

(continued ...)

indicate that RERRAs and distribution utilities have the authority to limit the ability of electric storage resources to access the RTO/ISO markets.[46] Some of these petitioners point to the Commission's finding that "[t]o the extent that the host distribution utility is unable . . . or unwilling to net out any energy purchases associated with . . . electric storage resources' wholesale charging activities from the host customer's retail bill, the RTO/ISO would be prevented from charging that resource wholesale rates for the charging energy for which it is already paying retail rates."[47] These petitioners also argue that, by finding that an electric storage resource is not eligible, by definition, for participation in the RTO/ISO markets if it is "contractually barred from injecting electric energy back onto the grid," the Commission acknowledged that an electric storage resource could be barred from participation by a distribution interconnection agreement.[48] NARUC asserts that the Commission failed, however, to acknowledge that the states have jurisdiction over those agreements.[49]

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[46] *See, e.g.*, AMP/APPA/NRECA, NARUC, Organization of MISO States, and TAPS.

[47] AMP/APPA/NRECA Rehearing Request at 6; TAPS Rehearing Request at 7 (citing Order No. 841, 162 FERC ¶ 61,127 at P 326).

[48] AMP/APPA/NRECA Rehearing Request at 6 (citing Order No. 841, 162 FERC ¶ 61,127 at P 33 ("per the interconnection agreement between an electric storage resource that is interconnected on a distribution system or behind-the-meter with a distribution utility to which it is interconnected")); NARUC Rehearing Request at 8 (citing Order No. 841, 162 FERC ¶ 61,127 at P 33).

[49] NARUC Rehearing Request at 8.

(continued ...)

18. NARUC also adds that PJM Manual 14C, which the Commission cited as support for the finding that distribution-level resources currently participate in the wholesale markets, indicates that the Commission does not determine *whether* distribution-level resources can participate in wholesale markets.[50] NARUC asserts that PJM's Manual 14C specifies that the only reason for a Wholesale Market Participation Agreement is to facilitate participation by distribution-level generators over which the Commission lacks jurisdiction.[51] According to NARUC, the Commission and PJM generally are not involved in the physical interconnection of distribution-level facilities using the Wholesale Market Participation Agreement; rather, it is a product of federal-state comity that should not be mistaken for an exercise of exclusive federal jurisdiction.[52]

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[50] *Id.* at 6.

[51] *Id.* at 6-7 (citing PJM Manual 14C, Generation and Transmission Interconnection Facility Construction, Revision 12, section 1.3 ("Generators planning to connect to the local distribution systems at locations that are not under FERC jurisdiction and wish to participate in PJM's market need to execute a PJM Wholesale Market Participation Agreement")).

[52] *Id.* (citing PJM Manual 14C: Generation and Transmission Interconnection Facility Construction, Revision 12, section 1.3 ("Generators planning to connect to the local distribution systems at locations that *are not under FERC jurisdiction* and wish to participate in PJM's market need to execute a PJM Wholesale Market Participation Agreement"); PJM Manual 14A: New Service Request Process, Revision 20, § 4.3 ("Developers interconnecting to *non-FERC jurisdictional facilities* who intend on participating in the PJM wholesale market will receive a three party agreement known as a [Wholesale Market Participation Agreement]. The [Wholesale Market Participation Agreement] is a non-Tariff agreement which must be filed with the FERC. *The [Wholesale Market Participation Agreement] is essentially an ISA without interconnection provisions.*") (emphasis added)).

(continued ...)

19. AMP/APPA/NRECA, NARUC, and TAPS also point to the Commission's acknowledgment in Order No. 2006-A that the vast majority of distribution-level interconnections are subject to state, rather than Commission, jurisdiction.[53] TAPS asserts that, because the Commission has acknowledged that the vast majority of distribution-level interconnections are subject to RERRA jurisdiction, the language in Order No. 841 requiring an electric storage resource to be "contractually permitted" to inject electric energy back to the grid gives RERRAs a veto over wholesale sales by distribution-connected and behind-the-retail-meter electric storage resources.[54] TAPS adds that, while the Commission has reached into the distribution systems of public utilities in narrow circumstances where the purpose of the interconnection is for wholesale sales and the distribution facilities at issue are already subject to the public utility's open access transmission tariff (OATT), facilities behind the retail meter are plainly beyond the scope of facilities "included in a public utility's Commission-filed

[53] AMP/APPA/NRECA Rehearing Request at 9; NARUC Rehearing Request at 3; TAPS Rehearing Request at 6 n.8 (citing Order No. 2006-A, 113 FERC ¶ 61,195 at P 105).

[54] TAPS Rehearing Request at 6 (quoting Order No. 2006-A, 113 FERC ¶ 61,195 at P 105 ("Order No. 2006 in no way affects rules adopted by the states for the interconnection of generators with state jurisdictional facilities. We expect that the vast majority of small generator interconnections will be with state jurisdictional facilities. The Commission encourages development of state interconnection programs, and interconnections with state jurisdictional facilities continue to be governed by state law.")).

(continued ...)

OATT."[55] TAPS also states that, with respect to net metering, the Commission allows the RERRA to set the netting interval to determine whether a distributed resource makes a net sale of electricity subject to the Commission's jurisdiction.[56] TAPS asserts that, because electric storage resources that rely on energy purchases to charge always purchase more energy than they sell, if the RERRA sets a netting interval for such a resource that is longer than its charge/discharge cycle, there does not appear to be a net sale of electricity from that resource under the "*MidAmerican* standard."[57]

20. Organization of MISO States argues that being "contractually permitted" to inject electric energy back onto the grid could be interpreted broadly to include the rules surrounding operation and interconnection to the distribution system or narrowly to address only technical interconnection rules.[58] Organization of MISO States asks the Commission to clarify that nothing in Order No. 841 is intended to impact existing rules

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[55] *Id.* at 6 n.8 (quoting *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003-A, 106 FERC ¶ 61,220, at PP 710, 730, *order on reh'g*, Order No. 2003-B, 109 FERC ¶ 61,287 (2004), *order on reh'g*, Order No. 2003-C, 111 FERC ¶ 61,401 (2005), *aff'd sub nom. Nat'l Ass'n of Regulatory Util. Comm'rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007); *Standardization of Small Generator Interconnection Agreements and Procedures,* Order No. 2006, 111 FERC ¶ 61,220, at P 481, *order on reh'g*, Order No. 2006-A, 113 FERC ¶ 61,195 (2005), *order granting clarification*, Order No. 2006-B, 116 FERC ¶ 61,046 (2006)).

[56] TAPS Rehearing Request at 6 n.9 (citing *MidAmerican Energy Co.*, 94 FERC ¶ 61,340, at 62,263 (2001); Order No. 2003-A, 106 FERC ¶ 61,220 at P 747; *Sun Edison LLC*, 129 FERC ¶ 61,146, at P 19 (2009), *on reh'g*, 131 FERC ¶ 61,213 (2010)).

[57] *Id.* at 6 n.9.

[58] Organization of MISO States Rehearing Request at 5.

(continued ...)

related to interconnection or operation of resources connected to the distribution system and that each RTO/ISO may adopt tariff provisions that require compliance with applicable rules as confirmed by the distribution utility and RERRA before an asset can be authorized to participate in the RTO/ISO markets.[59]

21. MISO seeks clarification with respect to the Commission's statement that it did not intend Order No. 841 "to affect or implicate the responsibilities of distribution utilities to maintain the safety and the reliability of the distribution system or their use of electric storage resources on their systems." MISO requests that the Commission clarify that each RTO/ISO may require a distribution-connected electric storage resource to comply with interconnection and/or operating requirements intended to address, to the reasonable satisfaction of the RTO/ISO, any potential material adverse reliability impacts on the distribution system raised by the relevant local distribution company. If the Commission declines to provide this clarification, MISO seeks rehearing on this issue. Organization of MISO States similarly asks the Commission to clarify that an RTO/ISO may propose tariff provisions recognizing a unique regional situation that requires additional RERRA oversight of resources connected to the distribution system that participate in wholesale markets.

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

b. Whether the Commission Should Exercise its Discretion and Adopt an Opt-out

22. Several petitioners argue that, even if the Commission concludes that it is not required to adopt an electric storage resource opt-out, the Commission's decision not to adopt an opt-out is an unexplained departure from Order No. 719, in which the Commission reasoned that its demand response resource opt-out properly balanced the Commission's goal of removing barriers to the development of demand response resources in the organized wholesale markets with the interests and concerns of state and local regulatory authorities.[60] EEI contends that the Commission's sole reason for declining to pursue a path of cooperative federalism by adopting an opt-out is that distribution-connected resources already participate in the wholesale market, which lacks factual support as to penetration and impact.[61] AMP/APPA/NRECA and TAPS claim that the Commission's decision in Order No. 841 not to adopt an opt-out for electric storage resources is arbitrary or inconsistent because an electric storage resource may still choose to participate in RTO/ISO markets as demand response, in which case it would be subject to the RERRA opt-out rules.[62]

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[60] *See, e.g.*, AMP/APPA/NRECA, EEI, NARUC, TAPS, and Xcel Energy Services.

[61] EEI Rehearing Request at 7 (citing Order No. 841, 162 FERC ¶ 61,127 at P 35).

[62] AMP/APPA/NRECA Rehearing Request at 14 n.48 (citing Order No. 841, 162 FERC ¶ 61,127 at P 56; 18 CFR 35.28(g)(1)(iii)); TAPS Rehearing Request at 4 (citing Order No. 841, 162 FERC ¶ 61,127 at PP 32, 55-56) (arguing that the electric storage resource owner's choice of which construct to use to participate in the RTO/ISO markets *(continued ...)*

23. AMP/APPA/NRECA, EEI, and TAPS argue that there is a more compelling argument for the Commission to adopt an opt-out in Order No. 841 than there was in Order No. 719 because electric storage resources inject power into the distribution system, thereby creating more significant operational, safety, and reliability concerns for retail customer interconnections and distribution systems than demand response resources.[63] EEI adds that, in some regions, the infrastructure, technology and resources are not in place to support large numbers of distribution-connected electric storage resources participating in the wholesale markets.[64] Organization of MISO States notes that, in *AEE*, the Commission cited the distinction between wholesale energy efficiency resources and demand response resources, finding that "[energy efficiency resources] are not likely to present the same operational and day-to-day planning complexity."[65] Organization of MISO States argues that the potential moment-to-moment changes in

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should not strip away the RERRA's authority that the Commission has previously recognized).

[63] *See, e.g.*, EEI Rehearing Request at 5 (claiming that the charging and discharging activity of distribution-connected electric storage resources could raise complicated interactions between wholesale and retail market activity that the distribution utility and RERRA will need to address); TAPS Rehearing Request at 4 (claiming that the need for deference is especially high for behind-the-retail-meter electric storage resources that may involve retail customers using retail interconnections to make wholesale purchases and sales).

[64] EEI Rehearing Request at 5.

[65] Organization of MISO States Rehearing Request at 3 (citing Order No. 841, 162 FERC ¶ 61,127 at P 35; *AEE*, 161 FERC ¶ 61,245 at P 63).

(continued ...)

utilization of electric storage resources are more in line with demand response than energy efficiency.[66]

24. TAPS asserts that the lack of an opt-out creates confusion that will undermine investment and create market uncertainty.[67] Therefore, TAPS argues that, instead of leaving RERRA policies to be implemented on a case-by-case basis, the Commission should provide a straightforward mechanism to enable RTOs/ISOs to implement RERRA decisions in a systematic and orderly way.[68] TAPS argues that the opt-out approach afforded for demand response in Order No. 719 has a proven record and can be implemented easily by RTOs/ISOs because they already use the mechanism for demand response resources. According to TAPS, this approach could help avoid the need to consider disruptive market re-runs or alternative enforcement mechanisms if an RTO/ISO accepts supply offers or demand bids from distribution-connected or behind-the-retail-meter electric storage resources that are barred from making such sales or purchases under state law.[69]

25. NARUC also expresses concern that the Commission's decision not to adopt an opt-out in Order No. 841 could inhibit state energy storage initiatives and posits that

[66] *Id.* at 3.

[67] TAPS Rehearing Request at 9.

[68] *Id.* at 10.

[69] *Id.* at 11.

(continued ...)

adopting an opt-out would provide clarity that would advance federal and state policymakers' shared interest in a resilient electric system with a diverse resource mix. If the Commission does not grant rehearing on the opt-out, NARUC asks the Commission to defer the determination of this jurisdictional issue to Docket No. RM18-9-000.[70]

26. If the Commission does not grant rehearing and provide an opt-out for electric storage resources, Xcel Energy Services requests that the Commission allow states, in conjunction with RTOs/ISOs, to determine the appropriate minimum capacity threshold at which electric storage resources connected to the distribution system or located behind a retail meter can participate in wholesale markets.[71]

c. Other Issues

27. SPP seeks clarification regarding whether it is the responsibility of the RTO/ISO to ensure that the necessary contractual arrangements are in place to permit an electric storage resource to inject energy onto the grid, or whether it is sufficient for an RTO/ISO to require an electric storage resource to attest that it has all the necessary contractual arrangements in place.[72] SPP states that it has taken the attestation approach in the area of demand response aggregation and seeks confirmation that such an approach would be

[70] NARUC Rehearing Request at 9.

[71] Excel Energy Services Rehearing Request at 16.

[72] SPP Motion for Clarification at 2 (citing Order No. 841, 162 FERC ¶ 61,127 at P 33), 13.

(continued ...)

sufficient for SPP to determine that a facility meets that particular qualification for an electric storage resource.[73]

28. SPP also seeks clarification that, while nothing in Order No. 841 requires an electric storage resource to participate in an RTO/ISO market, this does not supersede other reasons outside of the context of Order No. 841 that an electric storage resource might be required to comply with provisions of RTO/ISO tariffs applicable to all resources and loads.[74] SPP argues that these generally applicable requirements are critical as they give SPP awareness of the loads and resources that may exist within its markets and ensure that its tariff is administered in a manner that is not unduly discriminatory to any type of load or resource.[75]

29. Finally, AMP/APPA/NRECA claim that the assertion of jurisdiction over the purchase of charging energy as a wholesale sale presupposes that the electric storage resource may bypass the distribution utility and purchase directly from the wholesale market.[76] TAPS argues that the Commission does not have the authority to authorize

[73] *Id.* at 2-3.

[74] *Id.* at 3 (citing Order No. 841, 162 FERC ¶ 61,127 at P 35). For example, SPP states that it requires all loads and resources within the SPP region to register with SPP and it has certain must-offer requirements that apply to all available registered resources. SPP also states that it requires behind-the-meter resources of 10 MW or greater to register. *Id.* at 3-4.

[75] *Id.* at 4.

[76] AMP/APPA/NRECA Rehearing Request at 10 (citing Order No. 841, 162 FERC ¶ 61,127 at P 294 (requiring that the sale of electric energy from the RTO/ISO *(continued ...)*

retail customers to purchase energy from entities other than their distribution utility because the decision to allow a retail customer to purchase directly from suppliers other than its retail utility is a matter of state law or voluntary choice by the public-utility distribution company.[77]

3. Commission Determination

30. We deny rehearing. As a preliminary matter, we decline to defer the determination of whether to adopt an electric storage resource opt-out to Docket No. RM18-9-000.[78] That proceeding is focused on issues relating to distributed energy resource aggregations, while Order No. 841 addresses the participation of non-aggregated electric storage resources in RTO/ISO markets. We find that the Commission had sufficient record evidence before it to determine whether to adopt an electric storage resource opt-out, regardless of its decision to gather more information with respect to its

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markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP)).

[77] TAPS Rehearing Request at 8 n.11 (citing *New York v. FERC,* 535 U.S. 1, 12 n.9, 13, 20, 23 (2002) (quoting *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,782-83, 31,969 (1996), (cross-referenced at 77 FERC ¶ 61,080), *order on reh'g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, (cross-referenced at 78 FERC ¶ 61,220), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002)).

[78] *See* NARUC Rehearing Request at 9.

(continued ...)

proposals to remove barriers to the participation of distributed energy resource aggregations in RTO/ISO markets in Docket No. RM18-9-000.[79]

31. We continue to find that the Commission's establishing the criteria for participation in the RTO/ISO markets of electric storage resources, including those resources located on the distribution system or behind the meter, is essential to the Commission's ability to fulfill its statutory responsibility to ensure that wholesale rates are just and reasonable.[80] Below, we outline the relevant precedent with respect to the Commission's authority over electric storage participation in RTO/ISO markets, and then we address arguments raised by petitioners and the dissent concerning the Commission's decision not to adopt an electric storage resource opt-out. Finally, we address arguments that the Commission does not have authority to require that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.

a. Whether the Commission Must Adopt an Opt-out

32. As discussed below, we find that the FPA and relevant precedent does not legally compel the Commission to adopt an opt-out with respect to participation in RTO/ISO markets by electric storage resources interconnected on a distribution system or located

[79] *See* Order No. 841, 162 FERC ¶ 61,127 at P 5.

[80] *See id.* PP 1, 35.

(continued ...)

behind a retail meter. FPA section 201[81] authorizes the Commission to regulate the transmission of electric energy in interstate commerce and the wholesale sale of electric energy in interstate commerce, as well as all facilities used for such transmission or sale of electric energy. Section 201 also defines a public utility as "any person who owns or operates facilities subject to the jurisdiction of the Commission."[82] FPA sections 205[83] and 206[84] provide the Commission with jurisdiction over all rates and charges made, demanded, or received by any public utility for or in connection with the transmission or sale of electric energy subject to the Commission's jurisdiction. Those sections also provide the Commission with jurisdiction over all rules, regulations, practices, or contracts affecting jurisdictional rates, charges, or classifications.

33. In *EPSA*, the U.S. Supreme Court interpreted those FPA sections to uphold the Commission's jurisdiction over the participation in RTO/ISO markets of demand response resources: a type of non-traditional resource that, by definition, is located behind a customer meter and generally is located on the distribution system.[85] The Court

[81] 16 U.S.C. 824.

[82] *Id.* 824(e).

[83] *Id.* 824d.

[84] *Id.* 824e.

[85] *See EPSA*, 136 S. Ct. 760; 18 CFR 35.28(b)(4) (defining demand response as "a reduction in the consumption of electric energy by customers from their expected consumption in response to an increase in the price of electric energy or to incentive payments designed to induce lower consumption of electric energy").

(continued ...)

did not find the Commission's authority to be lessened by the location of demand response resources behind the retail customer meter.

34. First, the Court found that the Commission's regulation of demand response participation in wholesale markets met the "affecting" standard in FPA sections 205 and 206 "with room to spare."[86] In making this finding, the Court approved a "common-sense" construction of the FPA's language, previously articulated by the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit), that "limit[s] [the Commission]'s 'affecting' jurisdiction to rules or practices that directly affect the wholesale rate."[87] The Court then described, among other considerations, how RTOs/ISOs employ demand response bids in competitive auctions that balance wholesale supply and wholesale demand and thereby set wholesale prices. For these reasons, the Court found that "[w]holesale demand response, in short, is all about reducing wholesale rates; so too, then, the rules and practices that determine how those programs operate."[88] The Court concluded that "[c]ompensation for demand response thus directly affects wholesale prices. Indeed, it is hard to think of a practice that does so more."[89]

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[86] *EPSA*, 136 S. Ct. at 774 (referring to the Commission's jurisdiction under FPA sections 205 and 206 to regulate practices affecting jurisdictional rates).

[87] *Id.* (citing *Cal. Indep. Sys. Operator Corp. v. FERC*, 372 F.3d 395, 403 (2004) (internal quotation marks omitted)).

[88] *Id.* at 774.

[89] *Id.* at 775.

(continued ...)

35. Second, the Court found that the Commission's regulation of demand response resources did not regulate retail sales in violation of FPA section 201(b).[90] In making that finding, the Court rejected EPSA's arguments that the Commission (1) effectively regulated the retail price by increasing effective retail rates and (2) forced retail customers to respond to wholesale price signals for the express purpose of overriding state policy. Rather, the Court held that the Commission's regulation did "anything but increase retail prices" and that, "[i]n promoting demand response, [the Commission] did no more than follow the dictates of its regulatory mission to improve the competitiveness, efficiency, and reliability of the wholesale market."[91]

36. Finally, the Court stated that the "finishing blow to both of EPSA's arguments comes from [the Commission]'s notable solicitude toward the States."[92] Describing and commenting on the opt-out for states that the Commission included in Order No. 745, the Court stated that

> the Rule allows any State regulator to prohibit its consumers from making demand response bids in the wholesale market. Although claiming the ability to negate such state decisions,

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[90] *Id.* at 784.

[91] *Id.* at 778-79.

[92] *Id.* at 779. Earlier in its decision, the Court described the Commission's action as follows: "Pointing to the Commission's analysis in Order No. 719, [Order No. 745] explained that the FPA gives [the Commission] jurisdiction over such bids because they directly affect wholesale rates. Nonetheless, [Order No. 745] noted, [the Commission] would continue Order No. 719's policy of allowing any state regulatory body to prohibit consumers in its retail market from taking part in wholesale demand response programs." *Id.* at 772.

(continued ...)

> the Commission chose not to do so in recognition of the linkage between wholesale and retail markets and the States' role in overseeing retail sales. The veto power thus granted to the States belies EPSA's view that FERC aimed to 'obliterate[ ]' their regulatory authority or 'override' their pricing policies. And that veto gives States the means to block whatever 'effective' increases in retail rates demand response programs might be thought to produce. Wholesale demand response as implemented in the Rule is a program of cooperative federalism, in which the States retain the last word. That feature of the Rule removes any conceivable doubt as to its compliance with § 824(b)'s allocation of federal and state authority.[93]

37. Consistent with *EPSA*, the Commission found in *AEE* that, although the Commission in Order Nos. 719 and 745 granted RERRAs an opt-out from allowing retail customers to participate as wholesale demand response, the Commission was not obligated to do so.[94] Like compensation for demand response, the Commission held that it has jurisdiction over the participation of energy efficiency resources in RTO/ISO markets as a practice directly affecting wholesale markets, rates, and prices.[95] The Commission found that, because it has exclusive jurisdiction to regulate the participation of energy efficiency resources in RTO/ISO markets, RERRAs may not bar, restrict, or otherwise condition the participation of energy efficiency resources in RTO/ISO markets unless the Commission

[93] *Id.* at 779-80 (internal citations omitted).

[94] *AEE*, 161 FERC ¶ 61,245 at P 62 (citing *EPSA*, 136 S. Ct. at 776).

[95] *Id.* P 60.

(continued ...)

expressly gives RERRAs such authority.[96] The Commission explained that, as part and parcel of the participation of energy efficiency resources in RTO/ISO markets, the terms of eligibility of energy efficiency resource participation in the RTO/ISO markets has a direct effect on wholesale rates and that the Commission may set the terms of transactions occurring in the RTO/ISO markets, including which resources are eligible to participate, to ensure the reasonableness of wholesale prices and the reliability of the interstate grid.[97] The Commission thus concluded that a provision directly restricting retail customers' participation in RTO/ISO markets, even if contained in the terms of retail service, nonetheless intrudes on the Commission's jurisdiction over those markets and prevents the Commission from carrying out its statutory authority to ensure that wholesale electricity markets produce just and reasonable rates.[98]

38. Several of these findings are relevant to the Commission's decision to apply Order No. 841 to electric storage resources, including those connected at distribution-level

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[96] *Id.* P 61.

[97] *Id.* (citing *EPSA*, 136 S. Ct. 760 at 784).

[98] AEE Rehearing Order, 163 FERC ¶ 61,030 at P 37 (citing *Oneok, Inc. v. Learjet, Inc.*, 135 S. Ct. 1591, 1600 (2015) (finding that the proper test for determining whether a state action is preempted is "whether the challenged measures are 'aimed directly at interstate purchasers and wholesalers for resale' or not") (*Oneok*) (quoting *N. Natural Gas Co. v. State Corp. Comm'n of Kan.*, 372 U.S. 84, 94 (1963)); *Nantahala Power & Light Co. v. Thornburg*, 476 U.S. 953, 970 (finding that "a State may not exercise its undoubted jurisdiction over retail sales to prevent the wholesaler-as-seller from recovering the costs of paying the FERC-approved rate")).

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voltages or behind the meter, without adopting an electric storage resource opt-out.[99] The Commission has exclusive jurisdiction over the wholesale markets and the criteria for participation in those markets, including the wholesale market rules for participation of resources connected at distribution-level voltages or behind the meter.[100] As the Commission previously has found, the authority to determine which resources are eligible to participate in the RTO/ISO markets is a fundamental component of the regulation of the RTO/ISO markets.[101] By applying Order No. 841 to electric storage resources connected at distribution-level voltages or behind the meter, and by finding that the Commission is not required to adopt an electric storage resource opt-out, the Commission is not specifying any terms of sale at retail. Rather, the Commission is merely exercising its authority under the FPA to "regulate what takes place in the wholesale market" by ensuring that technically capable resources are eligible and able to participate in those markets.[102]

39. We disagree with assertions by petitioners and the dissent that, unless the Commission adopts an opt-out, the Commission's regulation of the RTO/ISO market participation of distribution-connected and behind-the-meter electric storage resources

[99] *See* Order No. 841, 162 FERC ¶ 61,127 at P 35.

[100] *Id.* P 35 (citing *EPSA*, 136 S. Ct. 760).

[101] *See* AEE Rehearing Order, 163 FERC ¶ 61,030 at P 36.

[102] *See EPSA*, 136 S. Ct. at 776.

(continued ...)

violates FPA section 201.[103] We find that the Supreme Court's jurisdictional findings in *EPSA* regarding wholesale demand response apply with at least as much force to participation in RTO/ISO markets by electric storage resources engaged in wholesale sales in interstate commerce, even where those resources are interconnected on a distribution system or located behind a retail meter. Order No. 841 directed changes to wholesale RTO/ISO markets to remove barriers to the participation of resources that directly engage in sales for resale under the FPA, an objective that is at the very core of the Commission's jurisdictional responsibilities. We acknowledge that the Commission's actions in Order No. 841 to improve wholesale markets will have impacts beyond those markets. However, as the Supreme Court stated in *EPSA*, "[w]hen FERC regulates what takes place on the wholesale market, as part of carrying out its charge to improve how that market runs, then no matter the effect on retail rates, § 824(b) imposes no bar."[104]

40. Further, contrary to the petitioners' arguments, the Court's jurisdictional conclusion in *EPSA* did not rest upon the fact that states were granted an opt-out. As alluded to above, the Court described how its "analysis of FERC's regulatory authority proceeds" without referring to an opt-out, stating:

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[103] *See, e.g.*, AMP/APPA/NRECA Rehearing Request at 8; NARUC Rehearing Request at 3; Xcel Energy Services Rehearing Request at 8; *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841-A, 167 FERC ¶ 61,154, at PP 5-12 (McNamee, Comm'r, *concurring in part and dissenting in part*) (Dissent).

[104] *EPSA*, 136 S. Ct. at 776.

(continued ...)

> First, the practices at issue in the Rule – market operators' payments for demand response commitments – directly affect wholesale rates. Second, in addressing those practices, the Commission has not regulated retail sales. Taken together, those conclusions establish that the Rule complies with the FPA's plain terms.[105]

When the Court then stated that it viewed the opt-out merely as the "finishing blow" to EPSA's already losing arguments that the Commission "aimed to obliterate [states'] regulatory authority or override their pricing policies,"[106] that statement was not a determinative part of its analysis.[107] Thus, we find that the Court's overall analysis of the Commission's jurisdiction with respect to participation by demand response resources in RTO/ISO markets makes clear that the Commission is not legally compelled to adopt an opt-out with respect to participation in RTO/ISO markets by electric storage resources interconnected on a distribution system or located behind a retail meter. Moreover, as the Commission noted in Order No. 841, there are already numerous distribution-connected

[105] *Id*. at 773. Similarly, after concluding its discussion of the first of these two points, the Court stated, "The above conclusion does not end our inquiry into the Commission's statutory authority; to uphold the Rule, we also must determine that it does not regulate retail electricity sales." *Id.* at 775.

[106] *Id.* at 779 (internal quotations omitted).

[107] In his dissent, Justice Scalia shared this understanding of the Court's analysis, stating, "Moreover, the rule itself allows States to forbid their retail customers to participate in the existing demand response scheme. The majority accepts FERC's argument that this is merely a matter of grace, and claims that it puts the 'finishing blow' to respondents' argument that 16 U.S.C. § 824(b)(1) prohibits the scheme." *Id.* at 789 (Scalia, J., dissenting).

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resources participating in the RTO/ISO markets that are subject to the RTO/ISO tariffs.[108] For these reasons, contrary to petitioners' arguments, *EPSA* does not require the Commission to adopt an electric storage resource opt-out.[109]

41. We also disagree with assertions that states can dictate whether resources are allowed to participate in the RTO/ISO markets through conditions on the receipt of retail service.[110] We acknowledge that states have the authority to include conditions in their own retail distributed energy resource or retail electric storage resource programs that prohibit any participating resources from also selling into the RTO/ISO markets. In that scenario, the owner of a resource has a choice between participating in the retail market or wholesale market. However, states may not take away that choice by broadly prohibiting all retail customers from participating in RTO/ISO markets. As explained above, the Commission has exclusive jurisdiction over the terms of eligibility for participation in the RTO/ISO markets.[111] Therefore, such conditions aimed *directly* at

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[108] Order No. 841, 162 FERC ¶ 61,127 at P 35. Contrary to EEI's assertion that this statement lacks factual support, the Commission cited to wholesale market participation programs in both PJM and CAISO. As further evidence that numerous distribution-connected resources are participating in the RTO/ISO markets, we note the filing of Wholesale Market Participation Agreements and Wholesale Distribution Access Tariffs that allow such resources to participate in the RTO/ISO markets.

[109] *See, e.g.*, AMP/APPA/NRECA Rehearing Request at 10-11; NARUC Rehearing Request at 5-6.

[110] *See* AMP/APPA/NRECA Rehearing Request at 9; TAPS Rehearing Request at 7-8.

[111] *See AEE*, 161 FERC ¶ 61,245 at P 61.

(continued ...)

the RTO/ISO markets, even if contained in the terms of retail service, would intrude on the Commission's jurisdiction over the RTO/ISO markets.[112] Just as the Commission cannot issue "a regulation compelling every consumer to buy a certain amount of electricity on the retail market"[113] because such a regulation would specify terms of sale at retail, states cannot intrude on the Commission's jurisdiction by prohibiting all consumers from selling into the wholesale market.

42. We thus also disagree with petitioners' arguments that the requirement in Order No. 841 that an electric storage resource be "contractually permitted" to inject electric energy back to the grid gives RERRAs a "veto" over the participation in wholesale markets of electric storage resources that are interconnected to the distribution system or located behind a retail meter.[114] Rather, we clarify that the requirement to be contractually permitted to inject energy onto the grid is intended to ensure that the

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[112] *See* AEE Rehearing Order, 163 FERC ¶ 61,030 at P 37 (finding that a provision directly restricting retail customers' participation in RTO/ISO markets, even if contained in the terms of retail service, nonetheless intrudes on the Commission's jurisdiction over the wholesale markets). *See also Oneok*, 135 S. Ct. at 1600 (finding that the proper test for determining whether a state action is preempted is "whether the challenged measures are 'aimed directly at interstate purchasers and wholesalers for resale' or not") (quoting *N. Natural Gas Co. v. State Corp. Comm'n of Kan.*, 372 U.S. 84, 94 (1963)); *Nantahala Power & Light Co. v. Thornburg*, 476 U.S. 953, 970 (finding that "a State may not exercise its undoubted jurisdiction over retail sales to prevent the wholesaler-as-seller from recovering the costs of paying the FERC-approved rate").

[113] *EPSA*, 136 S. Ct. at 776.

[114] *See, e.g.*, AMP/APPA/NRECA Rehearing Request at 6; NARUC Rehearing Request at 7-8; TAPS Rehearing Request at 6.

(continued ...)

definition of electric storage resource does not encompass any resource that does not have the requisite permits, agreements, or other necessary documentation in place that would ensure its ability to inject electric energy back to the grid and therefore engage in a wholesale sale. As the Commission stated in Order No. 841, the Commission recognizes a vital role for the states with respect to "retail services and matters related to the distribution system, including design, operations, power quality, reliability, and system costs."[115] We acknowledge that states have jurisdiction over the interconnections of certain resources to the distribution system and the requirements reasonably related to those interconnections, such as a requirement to upgrade the distribution system to facilitate the injection of electric energy back to the grid, a requirement to install certain technologies to mitigate a reliability or safety concern, or a charge for wholesale distribution service. We further understand that interconnection agreements may include technical requirements to safeguard against reliability or safety concerns, such as utility curtailment and anti-islanding provisions, or requirements to install equipment that forces resources to trip offline during extreme frequency, voltage, or fault current incidents. Indeed, such requirements could address the concerns raised by petitioners regarding the physical and operational impacts of electric storage resources on the distribution system. However, a broad prohibition on participating in the RTO/ISO markets is not reasonably related to the interconnection of a particular resource to the distribution system. We therefore disagree with assertions that state authority over certain interconnections

[115] Order No. 841, 162 FERC ¶ 61,127 at P 36.

necessitates that the Commission adopt an opt-out for electric storage resources connected to the distribution system or behind the meter.

43. We also are not persuaded by Xcel Energy Services' assertion that, unlike the "indirect" effects permitted in *EPSA*, Order No. 841 directly affects retail sales because it "fundamentally changes how retail sales occur and directly interferes with a state's ability to regulate retail sales."[116] The Court in *EPSA* recognized that, because the wholesale and retail markets are not "hermetically sealed," Commission regulation of the "wholesale market ha[s] natural consequences at the retail level."[117] The Court concluded, however, that when the Commission "regulates what takes place on the wholesale market, as part of carrying out its charge to improve how that market runs," the effects on the retail market have "no legal consequence" and FPA section 201 "imposes no bar" on the Commission's action.[118]

44. Like the Commission's regulation of demand response participation in the wholesale market, Order No. 841 "addresses—and addresses only—transactions occurring on the wholesale market."[119] In addition, as with Order No. 745, the

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[116] *See* Xcel Energy Services Rehearing Request at 7.

[117] *EPSA*, 136 S. Ct. at 776.

[118] *Id*. ("When FERC sets a wholesale rate, when it changes wholesale market rules, when it allocates electricity as between wholesale purchasers—in short, when it takes virtually any action respecting wholesale transactions—it has some effect, in either the short or the long term, on retail rates. That is of no legal consequence.").

[119] *Id.*

(continued ...)

Commission's justifications for Order No. 841 "are all about, and only about, improving the wholesale market."[120] And, just as the Court explained with respect to demand response, the Commission did not "invent" wholesale market participation of electric storage resources and the practice did not emerge as a "Commission power grab."[121] Rather "the impetus came from wholesale market operators" that "sought, and obtained, [the Commission's] approval to institute such programs."[122] Accordingly, Order No. 841 does not regulate retail sales and the effects that the order may have on retail sales are of "no legal consequence."[123]

45. Contrary to Xcel Energy Services' contention that Order No. 841 requires distribution utilities to establish expensive processes to assist the market participation of distribution-connected and behind-the-meter electric storage resources, the Commission is not imposing any new requirements on distribution utilities to enable the participation of electric storage resources in RTO/ISO markets. To the extent that distribution utilities do incur costs associated with enabling such participation, the Commission is also not changing the ability of distribution utilities to allocate any costs that they incur in

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[120] *Id.* at 779.

[121] *Id.*

[122] *Id. See, e.g.*, *Midwest Indep. Trans. Sys. Operator, Inc.*, 129 FERC ¶ 61,303 (2009); *New York Indep. Sys. Operator, Inc.*, 127 FERC ¶ 61,135 (2009); *California Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,211 (2010).

[123] *EPSA*, 136 S. Ct. at 776.

(continued ...)

operating and maintaining their respective power systems.[124] In any event, any additional costs imposed on distribution utilities could be outweighed by the overall benefits from increased competition due to greater participation of electric storage resources in RTO/ISO markets.

46. In response to Xcel Energy Services' argument that Order No. 841 interferes with state regulation of the reliability of the distribution system and MISO's request to clarify that each RTO/ISO may require a distribution-connected electric storage resource to comply with interconnection or operating requirements to address any potential material adverse reliability impacts on the distribution system, we reiterate that nothing in Order No. 841 preempts the states' right to regulate the safety and reliability of the distribution system and that all electric storage resources must comply with any applicable interconnection and operating requirements. As noted above, we understand that electric storage resources located on the distribution system are subject to various technical requirements that should help alleviate any concerns related to the safety and reliability of the distribution system due to RTO/ISO dispatch. As to Xcel Energy Services' concern that a distribution utility's retail sale to its customer could become a wholesale sale if that customer participates in the wholesale markets and sells more than it purchases for a billing period, we find that concern regarding a distribution utility's sale of energy to an electric storage resource to be outside the scope of this proceeding. The

[124] *See* Order No. 841, 162 FERC ¶ 61,127 at P 274.

(continued ...)

Commission's findings in Order No. 841 are limited to sales in RTO/ISO markets and do not address what retail customers may do with energy purchased at retail.[125]

47. The dissent suggests that today's order "mandates" that electric storage resources "be permitted to use distribution facilities so that they may access the wholesale market."[126] That is incorrect. As explained above, Order No. 841 addressed only the rules governing electric storage resources' participation in the wholesale market.[127] Order No. 841 did not mandate that electric storage resources must have access to the distribution system. Instead, Order No. 841 concluded that states cannot directly prohibit electric storage resources from participating in the wholesale market because doing so would invade the Commission's "exclusive jurisdiction over the wholesale markets and the criteria for participation in those markets."[128] In reaching that conclusion, the Commission recognized explicitly, as it must, that the states have authority to regulate the

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[125] Moreover, to the extent that Xcel Energy Services is concerned that retail customers could attempt to make purchases under a state-regulated retail tariff and then sell that energy into the Commission-jurisdictional wholesale market, nothing in Order No. 841 prevents states from prohibiting the resale of energy purchased under a retail tariff in the terms and conditions of retail service.

[126] Dissent at P 5.

[127] *See supra* P 44 ("[A]s with Order No. 745, the Commission's justifications for Order No. 841 'are all about, and only about, improving the wholesale market.'" (quoting *EPSA*, 136 S. Ct. at 779)).

[128] *See supra* P 38; *supra* P 41 (explaining that "conditions aimed *directly* at the RTO/ISO markets, even if contained in the terms of retail service, would intrude on the Commission's jurisdiction over the RTO/ISO markets" (citing *Oneok*, 135 S. Ct. at 1600)).

(continued ...)

distribution system, "including [its] design, operations, power quality, reliability, and system costs."[129]

48. The dissent also characterizes today's order as "hav[ing] the effect of directing that [electric storage resources] have access to distribution facilities."[130] That too is incorrect. Although Order No. 841 provides that states may not prohibit electric storage resources from participating in wholesale markets,[131] that requirement does not amount to an effective right of access to the distribution system itself.[132] As noted, Order No. 841 does not modify states' authority to regulate the distribution system, including the terms of access, provided that they do not "aim[] *directly* at the RTO/ISO markets."[133] Consistent with the FPA's cooperative federalist foundation, where electric storage resources interconnected with the distribution system are participating in RTO/ISO markets, it will be under circumstances that are consistent with states' authority to regulate the distribution system. Accordingly, Order No. 841 does not amount to regulation of the distribution system, effectively or otherwise.[134]

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[129] Order No. 841, 162 FERC ¶ 61,127 at P 36.

[130] Dissent at n.18.

[131] *See supra* PP 38, 41.

[132] To paraphrase the Court in *EPSA*, the word "effect[] is doing quite a lot of work in that argument." *EPSA*, 136 S. Ct. at 777.

[133] *See supra* PP 38, 41.

[134] In addition, the D.C. Circuit has held that the Commission properly may exercise jurisdiction with respect to distribution facilities in certain circumstances. *See*

(continued ...)

49. Some petitioners cite the Commission's interconnection policies generally to argue that the Commission must adopt an electric storage resource opt-out.[135] However, Order No. 841 did not reform or address any procedures pertaining to the interconnection of resources to transmission or distribution facilities. The Commission cited to certain RTO/ISO interconnection and market participation procedures, but merely to demonstrate that many distribution-connected resources are currently participating in those markets.[136] As the Commission found in Order No. 841, an electric storage resource that injects electric energy back into the grid for purposes of participating in an RTO/ISO market engages in a sale of electric energy at wholesale in interstate commerce[137] and the sale of charging energy to an electric storage resource that the resource then resells into an RTO/ISO market is also a sale for resale in interstate commerce.[138]

Nat'l Ass'n of Regulatory Util. Comm'rs v. FERC, 475 F.3d 1277 at 1282. Like the orders in that case, Order No. 841 also "leave[s] state law completely undisturbed" and thus the Commission is not impermissibly "commandeering" the states, as the dissent argues. *Id.* at 1283.

[135] *See, e.g.*, AMP/APPA/NRECA Rehearing Request at 9; NARUC Rehearing Request at 3; TAPS Rehearing Request at 6 n.8 (citing the Commission's acknowledgment in Order No. 2006-A that the vast majority of distribution-level interconnections are subject to state jurisdiction); Xcel Energy Services Rehearing Request at 10 (arguing that Order No. 841 will convert distribution facilities into Commission-regulated transmission facilities for interconnection purposes).

[136] *See* Order No. 841, 162 FERC ¶ 61,127 at P 35 n.56.

[137] *Id.* P 26.

[138] *See id.* P 295.

(continued ...)

b. Whether the Commission Should Exercise its Discretion and Adopt an Opt-out

50. We also disagree that the Commission's decision not to exercise its discretion and adopt an opt-out in Order No. 841 is an unexplained departure from the demand response resource opt-out adopted in Order No. 719.[139] As the Commission explained in *AEE*, Order No. 719 expressly provided that it only applies to demand response resources;[140] therefore, the Commission's decision not to adopt an electric storage resource opt-out is not a change in policy.[141]

51. Further, the resources that will use the electric storage resource participation model under Order No. 841 differ significantly from the demand response resources at issue in Order No. 719. Most notably, unlike demand response, electric storage resources are capable of engaging in sales for resale of electricity and those electric storage resources making sales in the RTO/ISO markets are public utilities subject to the Commission's jurisdiction.[142]

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[139] *See* EEI Rehearing Request at 7; NARUC Rehearing Request at 3; TAPS Rehearing Request at 3-4; Xcel Energy Services Rehearing Request at 13-15.

[140] *AEE*, 161 FERC ¶ 61,245 at P 65.

[141] Even if it were a policy change, the Commission "need not demonstrate . . . that the reasons for the new policy are better than the reasons for the old one; it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency believes it to be better." *FCC v. Fox Television Stations*, 556 U.S. 502, 513 (2009).

[142] *See* Order No. 841, 162 FERC ¶ 61,127 at P 30 (observing that an electric storage resource that injects electric energy back to the grid for purposes of participating *(continued ...)*

52. In addition, unlike in the case of demand response resources, RERRAs and distribution utilities do not have a longstanding history of managing and regulating programs for electric storage resources within their boundaries. Prior to the Commission's issuance of Order No. 719, many RERRAs supported the use of demand response resources in their boundaries, either requiring the distribution utilities that they regulate to establish demand response programs and compensate retail customers for their participation, or approving distribution utility-developed demand response programs. Such entities were concerned that, as a result of Order No. 719, the "best" demand response resources would choose to participate in the wholesale markets instead of retail programs, depriving load serving entities of important resources used to keep rates down for all consumers.[143] The Commission adopted the opt-out in Order No. 719 in part to help address that concern.[144] With respect to electric storage resources, fewer states have policies that involve electric storage resources, and those policies that exist were

in an RTO/ISO market engages in a sale of electric energy at wholesale in interstate commerce and must fulfill certain responsibilities set forth in the FPA and the Commission's rules and regulations); *EnergyConnect, Inc.*, 130 FERC ¶ 61,031, at P 30 (2010) (finding that an entity only engaged in the provision of demand response services that makes no sales of electric energy for resale would not be a public utility required to have a rate on file with the Commission).

[143] *See* Order No. 719, 125 FERC ¶ 61,071 at P 141.

[144] *See id.* P 155 (explaining that "[t]he Commission's intent was not to interfere with the operation of successful demand response programs").

(continued ...)

implemented fairly recently.[145] Accordingly, we find that the record in these proceedings does not indicate that a comparable opt-out is appropriate for energy storage resources.

53. We further reject AMP/APPA/NRECA's and TAPS's argument that, because an electric storage device may choose to participate in RTO/ISO markets as demand response and thus become subject to opt-out rules, the Commission's decision not to adopt an electric storage resource opt-out is arbitrary or inconsistent.[146] As the Commission stated in Order No. 841, participation by demand response resources in an RTO/ISO market does not involve a sale of electric energy at wholesale in interstate commerce.[147] Although electric storage resources participate in the RTO/ISO markets by injecting electric energy back to the grid, demand response participates in the RTO/ISO markets as a "reduction in the consumption of electricity."[148] Therefore, when an electric storage device chooses to participate in the RTO/ISO markets as demand response, it is not participating as an "electric storage resource" or injecting electricity onto the grid and

[145] For instance, among the many comments on the NOPR submitted by various state agencies and representatives, only California, Connecticut, Massachusetts and New York mentioned any specific state electric storage initiatives. *See* California Commission Comments (RM16-23-000) at 4-5, 10-13; Connecticut Commission Comments (RM16-23-000) at 4-5; Massachusetts Commission Comments (RM16-23-000) at 3, 6-8; New York Commission Comments (RM16-23-000) at 8.

[146] *See* AMP/APPA/NRECA Rehearing Request at 14 n.48; TAPS Rehearing Request at 4.

[147] *See EnergyConnect, Inc.*, 130 FERC ¶ 61,031 at P 30.

[148] 18 CFR 35.28(b)(4).

(continued ...)

should not be subject to the market rules applicable to electric storage resources. Accordingly, because demand response and electric storage resources have differing ways of interacting with RTO/ISO markets and are subject to different market rules, it is not arbitrary or inconsistent for the Commission to take different policy approaches when integrating those resources into the RTO/ISO markets.

54. We also disagree with Organization of MISO States' argument that electric storage resources are more similar to demand response resources than energy efficiency resources due to the operational challenges that they present and therefore the Commission should adopt an opt-out here.[149] As discussed above, electric storage resources are capable of engaging in sales for resale of electricity, and those electric storage resources making sales in the RTO/ISO markets are public utilities subject to the Commission's jurisdiction. These characteristics distinguish electric storage resources making sales in the RTO/ISO markets from both demand response resources and energy efficiency resources.

55. In response to TAPS' concern about whether there is a net sale of electricity from an electric storage resource under the *MidAmerican* standard, we note that *MidAmerican* applies only to retail customers participating in retail net metering programs, which is consistent with the Commission's acknowledgement in Order No. 841 that injections of electric energy back to the grid do not necessarily trigger the Commission's

[149] *See* Organization of MISO States Rehearing Request at 3.

(continued ...)

jurisdiction.[150] If an electric storage resource were to participate in a retail net metering program and in the RTO/ISO markets—which the Commission did not prohibit in Order No. 841— Commission jurisdiction would arise only where the electric storage resource participates in the wholesale market by making a Commission-jurisdictional sale for resale. It would be the responsibility of the RTO/ISO to establish metering and accounting practices to measure which actions taken by that electric storage resource are wholesale actions in the RTO/ISO markets.[151]

56. We recognize, as did the Court in *EPSA*, that sales for resale of electricity necessarily have effects on the distribution system.[152] We have considered those effects in evaluating whether to exercise our discretion to grant an opt-out, but find that the benefits of allowing electric storage resources broader access to the wholesale market outweigh any policy considerations in favor of an opt-out. In particular, Order No. 841 found that the benefits of removing barriers to the participation of electric storage resources in RTO/ISO markets are significant and, in light of those benefits, we are not persuaded to adopt an opt-out that could limit that participation. In addition, as discussed in the preceding section, there are several ways that RERRAs may address any concerns about effects on the distribution system without broadly prohibiting the participation of distribution-connected and behind-the-meter resources in RTO/ISO markets.

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[150] *See* Order No. 841, 162 FERC ¶ 61,127 at P 30 n.49.

[151] *See id.* P 317.

[152] *See EPSA*, 136 S. Ct. 760 at 776.

c. Other Issues

57. Finally, we deny rehearing regarding the Commission's authority to require that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP. We find to be misplaced suggestions that Order No. 841 "authorizes" retail customers (in this case, electric storage resources) to purchase energy from entities other than their distribution utility or "entitles" electric storage resources to bypass the distribution utility by purchasing from the RTO/ISO market.[153] The Commission is not preempting distribution utilities' franchised right to continue to make retail sales to their retail customers, as Xcel Energy Services suggests.

58. First, an electric storage resource purchasing charging energy directly from the RTO/ISO markets that it will resell back to those markets is not a retail customer making a purchase of retail energy but rather is a public utility engaging in a wholesale purchase and a wholesale sale.[154] Therefore, such a purchase of charging energy from the RTO/ISO markets does not infringe upon a distribution utility's right to sell at retail because that energy will be resold in the RTO/ISO markets.

59. Second, in Order No. 841, the Commission did not purport to *authorize* electric storage resources who are retail customers to bypass their distribution utilities and make

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[153] *See* AMP/APPA/NRECA Rehearing Request at 10; TAPS Rehearing Request at 8 n.11; Xcel Energy Services Rehearing Request at 8.

[154] Because such a resource is making wholesale sales in interstate commerce, it is a public utility that must fulfill certain responsibilities set forth in the FPA and the Commission's rules and regulations. *See* Order No. 841, 162 FERC ¶ 61,127 at P 30.

purchases of energy directly from RTO/ISO markets. Order No. 841 does not require electric storage resources to participate in the RTO/ISO markets; it only directs RTOs/ISOs to adopt market rules that apply to electric storage resources that *voluntarily* seek to participate in the RTO/ISO markets. Furthermore, Order No. 841 only addresses sales for resale; for this reason, the Commission only addressed pricing issues related to the wholesale sales addressed therein and did not preclude other options for electric storage resources to obtain charging energy.[155]

60. To further eliminate the potential for confusion on this point, we clarify that, in declining requests to allow states to decide whether electric storage resources in their state that are located behind a retail meter or on the distribution system are permitted to "participate" in the RTO/ISO markets through the electric storage resource participation model, the Commission was referring to the ability of electric storage resources to *sell* into the RTO/ISO markets. Given this clarification, we also dismiss as moot the argument that there is inconsistency between the Commission's finding that an RTO/ISO is prevented from charging a resource wholesale rates if the host distribution utility is unable or unwilling to net out wholesale energy purchases and the Commission's decision to decline to adopt an opt-out.[156]

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[155] *Id.* P 299.

[156] *See* AMP/APPA/NRECA Rehearing Request at 6; TAPS Rehearing Request at 7 (citing Order No. 841, 162 FERC ¶ 61,127 at P 326).

(continued ...)

61. In response to SPP's request for clarification regarding whether it is sufficient for an RTO/ISO to require an electric storage resource to attest that it has all the necessary contractual arrangements in place to permit that resource to inject energy onto the grid,[157] we clarify that Order No. 841 did not specify how an RTO/ISO must determine whether a particular resource seeking to participate in its markets qualifies as an electric storage resource under the definition set forth therein. Therefore, we clarify for SPP that, on compliance, it may propose the attestation approach that it has taken for demand response. Based on the full record before it, the Commission will consider on compliance whether allowing a resource to attest that it meets the definition of electric storage resources, including the associated requirement that it be contractually permitted to inject energy onto the grid, is just and reasonable.

62. In response to Organization of MISO States' request for clarification that RTOs/ISOs may propose tariff provisions that require electric storage resources to comply with applicable RERRA and distribution utility rules, we note that any resources subject to a RERRA's jurisdiction must comply with that RERRA's rules assuming that such rules do not conflict with the requirements of Order No. 841 (e.g., by placing a broad prohibition on participating in the RTO/ISO markets).[158] Similarly, in response to SPP's request for clarification regarding whether the requirements of Order No. 841

[157] SPP Motion for Clarification at 2 (citing Order No. 841, 162 FERC ¶ 61,127 at P 33), 13.

[158] *See id.* at 5-6.

supersede RTO/ISO tariff provisions that apply to all resources, we clarify that the requirements of Order No. 841 do not absolve electric storage resources from complying with RTO/ISO tariff provisions of general applicability as long as those tariff provisions do not conflict with the requirements of Order No. 841.

B. Participation Model for Electric Storage Resources

1. Final Rule

63. In Order No. 841, the Commission added § 35.28(g)(9)(i) to the Commission's regulations to require each RTO/ISO to revise its tariff to include a participation model consisting of market rules that, recognizing the physical and operational characteristics of electric storage resources, facilitates their participation in the RTO/ISO markets.[159] In adopting this requirement, the Commission stated that it was not convinced by commenters who argued that separate participation models are necessary for different types of electric storage resources (e.g., slower, faster, or aggregated).[160] Specifically, the Commission noted that it believed that the physical differences between electric storage resources can be represented by complying with the Final Rule's requirements for bidding parameters[161] and that a single participation model can be designed to be flexible

[159] Order No. 841, 162 FERC ¶ 61,127 at P 51.

[160] *Id.* P 54.

[161] In Order No. 841, the Commission added §35.28(g)(9)(i)(C) to the Commission's regulations to require each RTO/ISO to have tariff provisions providing a participation model for electric storage resources that accounts for the physical and *(continued ...)*

enough to accommodate any type of electric storage resource. However, the Commission stated that, to the extent an RTO/ISO seeks to include in its tariff additional market rules that accommodate electric storage resources with specific physical and operational characteristics, the RTO/ISO may propose such revisions to its tariff through a separate FPA section 205 filing.[162]

2. Requests for Rehearing or Clarification

64. In their rehearing request, AES Companies argue that there are significant differences in operating characteristics, such as response speeds, among the technologies that fall under Order No. 841's definition of an electric storage resource. According to AES Companies, legacy RTO/ISO software is incapable of supporting a participation model that all such technologies can use, and the RTOs/ISOs cannot anticipate all yet-to-be-developed technologies. AES Companies therefore argue that, because multiple participation models are needed to remove the barriers to the participation of electric storage resources that the Commission identified in Order No. 841, the Commission's directive to each RTO/ISO to establish a single participation model for all electric storage resources is an impossible task, invariably excluding some resources. AES Companies add that the Commission's statement that an RTO/ISO may propose additional market rules to accommodate electric storage resources with specific physical and operational

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operational characteristics of electric storage resources through bidding parameters or other means. *Id.* P 191.

[162] *Id.* P 54 (referencing 16 U.S.C. 824d).

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characteristics through a separate FPA section 205 filing is insufficient to address these concerns.[163]

3. Commission Determination

65. We deny AES Companies' request for rehearing. While we agree with AES Companies that the various technologies that qualify as an electric storage resource under the definition that the Commission adopted in the Final Rule may have different operating characteristics and that new electric storage technologies will likely emerge, we continue to find that a single participation model can be designed to be flexible enough to accommodate any type of electric storage resource.[164] Specifically, Order No. 841's requirement that each RTO/ISO must establish tariff provisions providing a participation model for electric storage resources that accounts for the physical and operational characteristics of electric storage resources through bidding parameters or other means should allow for the representation of the physical and operational differences between different types of electric storage resources. For this reason, we remain unpersuaded that the Commission must require separate participation models for different types of electric storage resources to remove barriers to their participation in RTO/ISO markets.

[163] AES Companies Rehearing Request at 11-13.

[164] Order No. 841, 162 FERC ¶ 61,127 at P 54.

C. Eligibility of Electric Storage Resources to Participate in the RTO/ISO Markets

1. Final Rule

66. Order No. 841 added § 35.28(g)(9)(i)(A) to the Commission's regulations to require each RTO/ISO to establish market rules so that a resource using the participation model for electric storage resources is eligible to provide all capacity, energy, and ancillary services that it is technically capable of providing, including services that the RTOs/ISOs do not procure through an organized market.[165] While noting that there is significant variation in how each RTO/ISO approaches resource adequacy, the Commission found that it is important for electric storage resources that can provide value in those resource adequacy constructs to be eligible to participate.[166] The Commission further stated that, if an RTO/ISO does not have existing tariff provisions that enable electric storage resources to provide capacity, it must propose such rules on compliance.

2. Requests for Rehearing or Clarification

67. SPP seeks clarification that Order No. 841 does not require an RTO/ISO to create and provide a capacity product that an RTO/ISO market does not otherwise offer, noting that SPP does not currently operate a forward capacity market or offer capacity as a biddable product on its system.[167]

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[165] *Id.* P 76.

[166] *Id.* P 100.

[167] SPP Motion for Clarification at 4-5.

3. Commission Determination

68. We grant SPP's request for clarification. Order No. 841 does not require an RTO/ISO that does not have a capacity product in its markets to create such a product to comply with the Final Rule. However, to the extent that an RTO/ISO has a resource adequacy construct, the RTO/ISO must demonstrate on compliance that the existing market rules governing its resource adequacy construct provide a means for electric storage resources to participate in that construct if electric storage resources are technically capable of doing so.[168]

D. Participation in the RTO/ISO Markets as Supply and Demand

1. Eligibility to Participate as a Wholesale Seller and Wholesale Buyer

a. Final Rule

69. In Order No. 841, the Commission added § 35.28(g)(9)(i)(B) to the Commission's regulations to require each RTO/ISO to revise its tariff to ensure that a resource using the participation model for electric storage resources can be dispatched as supply and demand and can set the wholesale market clearing price as both a wholesale seller and wholesale buyer, consistent with rules that govern the conditions under which a resource can set the wholesale price.[169] The Commission found that, for a resource using the participation model for electric storage resources to be able to set prices in the RTO/ISO markets as either a wholesale seller or a wholesale buyer, it must be available to the

[168] Order No. 841, 162 FERC ¶ 61,127 at P 76. *See also id.* P 100.

[169] *See id.* P 142.

RTO/ISO as a dispatchable resource. Moreover, the Commission required that resources using the participation model for electric storage resources must be allowed to participate in the RTO/ISO markets as price takers, consistent with the existing rules for self-scheduled resources.

70. Additionally, the Commission required in Order No. 841 that RTOs/ISOs must accept wholesale bids from resources using the participation model for electric storage resources to buy energy.[170] The Commission further stated that allowing electric storage resources to participate in the RTO/ISO markets as dispatchable load will allow these resources to set the market clearing price under certain circumstances, thus better reflecting the value of the marginal resource and ensuring that electric storage resources are dispatched in accordance with the highest value service that they are capable of providing during a set market interval.[171]

b. Requests for Rehearing or Clarification

71. AES Companies seek rehearing of what they construe as Order No. 841's requirement that all resources using an RTO's/ISO's participation model for electric storage resources be dispatchable, citing to the Commission's determinations in Order No. 841 that (1) to set prices in the RTO/ISO markets as either a wholesale seller or a wholesale buyer, a resource using the participation model for electric storage resources

[170] *See id.*

[171] *See id.* P 143.

(continued ...)

must be available to the RTO/ISO as a dispatchable resource and (2) an electric storage resource participation model must ensure that a resource using it can be dispatched.[172] AES Companies argue that these requirements codify the existing unjust, unreasonable, unduly discriminatory and preferential *status quo* that prevents resources that provide services automatically from participating in RTO/ISO markets without risking the physical damage to their equipment that can occur if they are subject to RTO/ISO dispatch. AES Companies argue that, contrary to Order No. 841's statement that a participation model for electric storage resources must recognize the physical and operational characteristics of electric storage resources, predicating participation on dispatchability fails to recognize the physical and operational characteristics of these electric storage resources.[173]

72. In addition, AES Companies argue that Order No. 841 unreasonably limits its application of the term "dispatch" to an activity performed exclusively by RTO/ISO software. According to AES Companies, the term "dispatch" should instead be "inclusive of scheduling an electric storage resource to operate autonomously, and ordered outside of the RTO/ISO software by the Reliability Coordinator."[174]

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[172] AES Companies Rehearing Request at 7 (citing Order No. 841, 162 FERC ¶ 61,127 at PP 142, 4).

[173] *Id.* at 8-11.

[174] *Id.* at 9.

73. SPP seeks clarification that Order No. 841 will not require an RTO/ISO that does not currently offer a real-time dispatchable load service, such as SPP, to create a new service to dispatch an electric storage resource as load or negative generation. To the extent that Order No. 841 requires the development of such a new service, SPP asks whether the Commission will provide each RTO/ISO with flexibility to develop such service consistent with its existing market design constructs, with a full opportunity to evaluate the potential system impacts, and with flexibility to propose its own timeline for developing and implementing such a service.[175]

c. Commission Determination

74. In their rehearing request, AES Companies argue that Order No. 841 requires a resource seeking to participate in RTO/ISO markets under the electric storage resource participation model to be available to the RTO/ISO as a dispatchable resource. We disagree with this characterization of Order No. 841's requirements and thus, deny AES Companies' request for rehearing. However, we find it is necessary to modify § 35.28(g)(9)(i)(B) of the Commission's regulations to clarify that, to the extent electric storage resources are dispatchable, the RTO/ISO is required to allow them to participate as dispatchable resources and to set the clearing price in the RTO/ISO markets as part of the participation model. We clarify that not all electric storage resources that seek to use the electric storage resource participation model need to be dispatchable to use that participation model.

[175] SPP Motion for Clarification at 5-6.

75. Order No. 841 added § 35.28(g)(9)(i)(B) to the Commission's regulations to require each RTO/ISO to revise its tariff to provide a participation model for electric storage resources that:

> (B) Ensures *that a resource using the participation model for electric storage resources can be dispatched* and can set the wholesale market clearing price as both a wholesale seller and wholesale buyer consistent with rules that govern the conditions under which a resource can set the wholesale price…"[176]

76. We clarify here that this requirement was not intended to require that a resource using the participation model for electric storage resources be dispatchable. Rather, by stating that this was to be "consistent with rules that govern the conditions under which a resource can set the wholesale price," Order No. 841 requires each RTO/ISO to revise its tariff to include a participation model for electric storage resources enabling the RTO/ISO to dispatch a resource using that model to the extent that the resource has indicated to the RTO/ISO, whether through its offers to sell or bids to buy or some other mechanism, that it desires to be dispatchable. Our clarification is consistent with Order No. 841's findings that (1) resources using the participation model for electric storage resources must be allowed to participate in the RTO/ISO markets as price takers, consistent with the existing market rules for self-scheduled resources[177] and (2) to ensure

[176] 18 CFR 35.28(g)(9)(i)(B (emphasis added); Order No. 841, 162 FERC ¶ 61,127 at P 142.

[177] *See* Order No. 841, 162 FERC ¶ 61,127 at P 142.

(continued ...)

consistent treatment in the RTO/ISO markets, electric storage resources must maintain the same ability to self-schedule their resource as other market participants.[178]

77. To remove the ambiguity, we revise § 35.28(g)(9)(i)(B) of the Commission's regulations as follows:

> (B) ***Enables*** a resource using the participation model for electric storage resources ***to*** be dispatched and ***ensures that such a dispatchable resource*** can set the wholesale market clearing price as both a wholesale seller and wholesale buyer consistent with rules that govern the conditions under which a resource can set the wholesale price;

78. This modification clarifies that each RTO/ISO is required to allow resources using the participation model for electric storage resources to participate in the RTO/ISO markets as dispatchable resources, not that such resources must be dispatchable to use that participation model. We reiterate, however, that the Commission will continue to require that resources using the participation model for electric storage resources can only set prices in the RTO/ISO markets as either a wholesale seller or a wholesale buyer if they are available to the RTO/ISO as a dispatchable resource.[179]

79. AES Companies request that the Commission expand our use of the term dispatch beyond those "activities performed by RTO/ISO software." However, as clarified above, Order No. 841 only required that each RTO/ISO must be capable of dispatching resources using the participation model for electric storage resources and allow such

[178] *See id.* P 144.

[179] *See id.* P 142.

dispatchable resources to set prices in the RTO/ISO markets. Given this clarification, we do not find it necessary to expand our use of the term dispatch beyond RTO/ISO activities, as requested by AES Companies.

80. We deny SPP's request for clarification that it need not revise its market rules to allow for dispatchable load. In Order No. 841, the Commission required each RTO/ISO to create a participation model for electric storage resources that ensures that a resource using that model can be dispatched as a wholesale buyer.[180] Additionally, the Commission required that RTOs/ISOs accept wholesale bids from resources using the participation model for electric storage resources to buy energy.[181] As the Commission stated in Order No. 841, allowing electric storage resources to participate in the RTO/ISO markets as dispatchable load will allow these resources to set the market clearing price under certain circumstances, thus better reflecting the value of the marginal resource and ensuring that electric storage resources are dispatched in accordance with the highest value service that they are capable of providing during a set market interval.[182]

81. We clarify for SPP that Order No. 841 provides flexibility for each RTO/ISO to develop a participation model for electric storage resources consistent with its existing

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[180] *See id.*; 18 CFR 35.28 (g)(9)(i)(B).

[181] Order No. 841, 162 FERC ¶ 61,127 at P 142. *See also id.* P 150 ("This Final Rule requires an electric storage resource to be eligible to participate in the RTO/ISO markets as a wholesale buyer and for each RTO/ISO to be able to dispatch them as such. Such a mechanism would entail participation in the energy markets, not the provision of a new service . . . .").

[182] *See id.* P 143.

market design constructs, as SPP requests. Order No. 841 did not, however, provide each RTO/ISO with flexibility to propose its own timeline for developing and implementing any aspect of the participation model for electric storage resources, including the requirement that RTOs/ISOs must ensure a resource using the participation model for electric storage resources can be dispatched as a wholesale buyer.

2. Participation as Price Takers

a. Final Rule

82. In the Final Rule, the Commission required that resources using the participation model for electric storage resources must be allowed to participate in the RTO/ISO markets as price takers, consistent with the existing rules for self-scheduled resources.[183] The Commission rejected assertions that an RTO/ISO must decide whether to allow electric storage resources to be price takers, finding that, to ensure consistent treatment in the RTO/ISO markets, electric storage resources must maintain the same ability to self-schedule their resource as other market participants.[184] Additionally, to ensure that electric storage resources are treated consistently with the ability of self-scheduled load resources and traditional generation resources to participate in the RTO/ISO markets, the

[183] *Id.* P 142.

[184] *Id.* P 144.

(continued ...)

Commission determined that the ability of electric storage resources to participate as price takers should not be limited to their participation as load.[185]

b. Requests for Rehearing or Clarification

83. MISO requests clarification that, in complying with the directive to allow electric storage resources to be price takers as self-scheduled resources,[186] MISO may also consider treating an electric storage resource as a self-scheduled price-taker if the electric storage resource uses its State of Charge to lock its energy output to a very narrow range. MISO explains that, in real time, an electric storage resource could use its State of Charge to lock its MW amount around its day-ahead position, and that locking energy output to a very narrow range may result in capacity that cleared in the capacity market not being fully available to the day-ahead market, counter to the day-ahead must-offer obligation.[187]

c. Commission Determination

84. We deny MISO's request for clarification. We reiterate that RTOs/ISOs must provide electric storage resources with the same ability to self-schedule as other market

[185] *Id.* P 148.

[186] MISO Request for Rehearing at 7 (citing Order No. 841, 162 FERC ¶ 61,127 at P 142).

[187] MISO states that such a limitation would be consistent with the principle articulated in Order No. 841 that an [electric storage resource] "must not de-rate its capacity below any capacity obligations it has assumed, such as any applicable must-offer requirement." *Id.* at 7-8 (citing Order No. 841, 162 FERC ¶ 61,127 at P 99).

(continued ...)

participants.[188] We therefore find that, to the extent that a resource using the participation model for electric storage resources has not elected to be a self-scheduled price taker, it would be unreasonable for an RTO/ISO to designate that resource as a self-scheduled price taker solely based on the State of Charge parameters that the resource has submitted. We find that the RTO/ISO must provide resources using the electric storage resource participation model with the opportunity to determine whether to self-schedule, consistent with the RTO's/ISO's existing rules for self-scheduled resources.

85. However, in response to MISO's concern that, if a resource using the participation model for electric storage resources restricts its energy output to a very narrow range through its State of Charge, any of its capacity that cleared in the capacity market may not be fully available to the day-ahead market, we agree that a resource using the participation model for electric storage resources may not use a bidding parameter, such as State of Charge, to circumvent its obligations in the RTO/ISO markets, including any day-ahead must-offer obligation for capacity resources.

E. Physical and Operational Characteristics of Electric Storage Resources

1. Requirement to Incorporate Bidding Parameters as Part of the Electric Storage Resource Participation Model

a. Final Rule

86. In the Final Rule, the Commission added § 35.28(g)(9)(i)(C) to the Commission's regulations to require each RTO/ISO to have tariff provisions providing a participation

[188] *See* Order No. 841, 162 FERC ¶ 61,127 at P 144.

(continued ...)

model for electric storage resources that accounts for the physical and operational characteristics of electric storage resources through bidding parameters or other means.[189] Specifically, the Commission required that each RTO's/ISO's participation model for electric storage resources must account for 13 different physical and operational characteristics, as defined in the Final Rule.[190] In adopting this requirement, the Commission noted that it was persuaded by commenters' arguments that there may be other means of accounting for the physical and operational characteristics of electric storage resources than bidding parameters and that greater regional flexibility than the Commission proposed in the Notice of Proposed Rulemaking (NOPR) is appropriate.[191] In particular, the Commission stated that different RTOs/ISOs may be able to more

[189] *Id.* P 191.

[190] *Id.* P 236. Those physical and operating characteristics are as follows: (1) State of Charge, (2) Maximum State of Charge, (3) Minimum State of Charge, (4) Maximum Charge Limit, (5) Maximum Discharge Limit, (6) Minimum Charge Time, (7) Maximum Charge Time, (8) Minimum Run Time, (9) Maximum Run Time, (10) Minimum Discharge Limit, (11) Minimum Charge Limit, (12) Discharge Ramp Rate, and (13) Charge Ramp Rate. Relevant to the discussion of MISO's request for clarification below, the Final Rule defined State of Charge as "the amount of energy stored in proportion to the limit on the amount of energy that can be stored, typically expressed as a percentage. It represents the forecasted starting State of Charge for the market interval being offered into." Minimum Charge Limit is the "minimum [megawatt] level that a resource using the participation model for electric storage resources can receive from the grid" and Minimum Discharge Limit is the "minimum [megawatt] output level that a resource using the participation model for electric storage resources can inject onto the grid." Discharge Ramp Rate and Charge Ramp Rate are the speed at which a resource using the participation model for electric storage resources can move from zero output to its Maximum Discharge Limit and Maximum Charge Limit, respectively. *Id*.

[191] *Id.* P 190.

(continued ...)

effectively account for the physical and operational characteristics of electric storage resources through different mechanisms given their unique market designs.

b. Requests for Rehearing or Clarification

87. MISO requests clarification on whether it may require electric storage resources to submit their State of Charge forecasts at the beginning of a particular market interval. MISO contends that such a requirement will allow it to derive the charging or discharging status of a resource for every interval, eliminating the need for MISO to introduce a binary variable to determine the charging or discharging mode of a resource in its co-optimization process and in turn avoiding potential adverse impacts on its market clearing and commitment processes.[192]

88. MISO also requests clarification that, if an electric storage resource does not provide minimum charge and discharge limits and can be moved smoothly between negative and positive, MISO may require the resource to submit a single hourly ramp rate for the day-ahead market and for its Look Ahead Commitment process. According to MISO, it has currently adopted this practice with respect to other resources. MISO argues that such a requirement would allow it to avoid the nonlinearity caused by a megawatt dependent ramp curve and additional integer variables. MISO also asks the Commission to clarify that it may apply its current practice of allowing three ramp rates

[192] MISO Request for Rehearing at 6.

(continued ...)

and ramp rate curves for regulating, up, and down movement to electric storage resources.[193]

89. PJM seeks clarification that the Final Rule allows for flexibility in how RTOs/ISOs account for the physical and operational characteristics of electric storage resources, including State of Charge.[194] Specifically, PJM argues that there are different approaches to implementing Order No. 841's requirement that an electric storage resource participation model account for electric storage resources' physical and operational characteristics, which involve different degrees of modeling and operational changes and challenges.[195]

c. Commission Determination

90. In response to MISO's request for clarification, we clarify that, on compliance, MISO may propose to require a resource using the electric storage resource participation model to submit its forecasted State of Charge at the beginning of any market interval in which it intends to participate. With that said, we make no findings on the proposal that MISO outlines in its request for clarification. Order No. 841 provided flexibility to the RTOs/ISOs on how to account for the physical and operational characteristics of electric

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

[194] PJM Motion for Clarification at 1 (citing Order No. 841, 162 FERC ¶ 61,127 at PP 189-194, 211-216, 220-224).

[195] *Id.* at 2-3.

(continued ...)

storage resources.[196] We will not prejudge any particular approach to implementing Order No. 841's requirement that each RTO/ISO establish a participation model for electric storage resources that accounts for the physical and operational characteristics of electric storage resources through bidding parameters or other means; rather, we will evaluate MISO's proposal on compliance with the full record before us.

91. Similarly, in response to MISO's clarification request regarding ramp rates, we clarify that MISO may propose for an electric storage resource that does not provide minimum charge and discharge limits and can be moved smoothly between negative and positive to submit a single hourly ramp rate for the day-ahead market and for its Look Ahead Commitment process. However, we also make no findings on the merits of the proposal that MISO outlines in its request for clarification.

92. Order No. 841 also states that, to the extent that an RTO/ISO proposes to comply with the Final Rule using its existing bidding parameters or other market mechanisms, it must demonstrate in its compliance filing how its existing market rules account for these characteristics of electric storage resources.[197] We therefore clarify that MISO may propose to apply its current practice of allowing three ramp rates and ramp rate curves for regulating, up, and down movement to resources using the electric storage resource participation model, but that it must demonstrate in its compliance filing how this practice accounts for Discharge Ramp Rate and Charge Ramp Rate. The Commission

[196] *See* Order No. 841, 162 FERC ¶ 61,127 at P 191.

[197] *Id.* P 229.

will determine on compliance whether MISO's proposal complies with the requirements of Order No. 841.

93. We also grant PJM's request for clarification. The Order No. 841 requirement that each RTO/ISO establish tariff provisions providing a participation model for electric storage resources that accounts for the physical and operational characteristics of electric storage resources through bidding parameters or other means, allows for regional flexibility.[198] Specifically, in Order No. 841, the Commission noted that it was persuaded by commenters' arguments that there may be other means of accounting for the physical and operational characteristics of electric storage resources than bidding parameters and that greater regional flexibility than the Commission proposed in the NOPR was appropriate. In particular, the Commission stated that different RTOs/ISOs may be able to more effectively account for the physical and operational characteristics of electric storage resources through different mechanisms given their unique market designs.[199] That said, we make no findings on the proposed approaches that PJM outlines in its request for clarification. We will not prejudge any particular approach to implementing the Final Rule's requirement that each RTO/ISO establish a participation model for electric storage resources that accounts for the physical and operational characteristics of electric storage resources through bidding parameters or other means; rather, we will evaluate PJM's proposal on compliance with a full record before us.

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[198] *See id.* P 191.

[199] *Id.* P 190.

F. Minimum Size Requirement

1. Final Rule

94. In Order No. 841, the Commission added § 35.28(g)(9)(i)(D) to the Commission's regulations to require each RTO/ISO to revise its tariff to include a participation model for electric storage resources that establishes a minimum size requirement for participation in the RTO/ISO markets that does not exceed 100 kW.[200] The Commission stated that this minimum size requirement includes all minimum capacity requirements, minimum offer to sell requirements, and minimum bid to buy requirements for resources participating in these markets under the participation model for electric storage resources. In support of the requirement, the Commission found that requiring the RTOs/ISOs to establish a minimum size requirement not to exceed 100 kW for the participation model for electric storage resources balances the benefits of increased competition with the potential need to update RTO/ISO market clearing software to effectively model and dispatch smaller resources.[201]

95. The Commission further found that the record shows that all RTOs/ISOs are already accommodating the participation of smaller resources in their markets.[202] For example, the Commission stated that the record shows that all RTOs/ISOs already have

[200] *Id.* P 270.

[201] *Id.* P 271.

[202] *Id.* P 272.

(continued ...)

the modeling and dispatch software capabilities to accommodate the participation of resources that are as small as 100 kW. Specifically, the Commission noted that both PJM and SPP have a minimum size requirement of 100 kW for all resources, and all of the RTOs/ISOs have at least one participation model that allows resources as small as 100 kW to participate in their markets.[203]

96. Moreover, in response to concerns about potential impacts on the distribution systems and related costs, the Commission noted that there are resources located on the distribution system that are already participating in the RTO/ISO markets.[204] The Commission stated that establishing a standard minimum size requirement for resources using the participation model for electric storage resources may potentially result in more resources on the distribution systems participating in the RTO/ISO markets. However, the Commission stated that it does not change the responsibilities of the RTOs/ISOs or the distribution utilities, and it does not change the ability of distribution utilities to allocate any costs that they incur in operating and maintaining their respective power systems.

97. With respect to concerns about the need to upgrade RTO/ISO software to manage the potentially large number of resources using the participation model for electric

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[203] *Id.* (citing CAISO Data Request Response at 10-11; ISO-NE Data Request Response at 13-14; MISO Data Request Response at 10; NYISO Data Request Response at 9; PJM Data Request Response at 5).

[204] *Id.* P 274.

(continued ...)

storage resources under the proposed minimum size requirement, the Commission found that it was providing the RTOs/ISOs with adequate time to develop the requisite tariff language and update their modeling and dispatch software to comply with Order No. 841.[205] The Commission was also not concerned about the potential availability of software solutions as multiple RTOs/ISOs already provide a minimum size requirement of 100 kW for all resources and have not expressed similar concerns regarding the minimum size requirement. However, the Commission recognized that there are currently fewer 100 kW resources than there may be in the future and stated that it will consider future requests to increase the minimum size requirement to the extent an RTO/ISO can show that it is experiencing difficulty calculating efficient market results and there is not a viable software solution for improving such calculations.

2. Requests for Rehearing or Clarification

98. In its rehearing request, EEI states that the Commission should allow the RTOs/ISOs, in conjunction with the electric distribution utilities, to establish a minimum size requirement for electric storage resources that would be manageable for their markets while maintaining reliability on both the bulk electric power system and the relevant distribution systems.[206] EEI argues that the Commission has provided insufficient support for its proposed minimum size requirement, stating that the evidence that the Commission cites is inadequate given the concerns expressed in the record that

[205] *Id.* P 275.

[206] EEI Rehearing Request at 9-10.

the 100 kW minimum size requirement may be too small due to software, settlement, and other infrastructure limitations. For example, EEI contends that the Commission does not provide evidence in the form of numbers of 100 kW resources directly participating in the RTO/ISO markets or the number of tariff provisions that permit participation at such size.[207]

99. EEI argues that the number of electric storage resources that could potentially seek to participate in the wholesale market at the proposed threshold could become so voluminous that they (1) exceed the ability of RTOs/ISOs to manage this volume of resources, (2) exceed the ability of distribution utilities to address various reliability, operational, and interconnection matters given that smaller resources are far more likely to interconnect to the distribution system, and (3) impose implementation costs significantly greater than corresponding benefits, particularly in regions where resources of the 100 kW size have other compensation options such as net energy metering. EEI argues that allowing the RTOs/ISOs to make an after-the-fact showing of difficulties in calculating efficient market outcomes does not adequately account for these concerns or address the software and other costs on both the transmission and distribution system of complying with the Final Rule.[208]

100. MISO requests clarification or, in the alternative, rehearing that it may phase in the implementation of the minimum size requirement. Specifically, MISO seeks

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

[208] *Id.* at 9 (citing Order No. 841, 162 FERC ¶ 61,127 at P 275).

clarification that it may cap the number of very small electric storage resources that can participate in its markets at the number of such resources that its initial software and system changes can handle in the first year of implementation. According to MISO, it will increase the number of small electric storage resources that it will allow in its market as it improves its software's capability to manage them. MISO argues that this phased approach is a reasonable precaution to proactively address the potential for large numbers of small electric storage resources, rather than waiting to react to adverse impacts of future high volumes of small electric storage resources.[209]

101. MISO also requests clarification or, in the alternative, rehearing, that the 100 kW limit applies to the Maximum Charge Limit or Maximum Discharge Limit and not to the Minimum Charge Limit or Minimum Discharge Limit. MISO contends that small electric storage resources can offer a smaller Minimum Charge Limit or Minimum Discharge Limit, such as 0.0001 MW. MISO adds that, if the offered minimum limit is too small, an RTO/ISO can round it to zero and assume that the resource can smoothly move between the negative Maximum Charge Limit and positive Maximum Discharge Limit. MISO argues that this rounding can avoid unnecessarily limiting the range for clearing energy or reserve products.[210]

[209] MISO Rehearing Request at 4-5.

[210] *Id.* at 4 (citing Order No. 841, 162 FERC ¶ 61,127 at P 236).

3. Commission Determination

102. We deny EEI's request for clarification and rehearing. We continue to find that requiring each RTO/ISO to establish a minimum size requirement not to exceed 100 kW for the participation model for electric storage resources balances the benefits of increased competition with the potential need to update RTO/ISO market clearing software to effectively model and dispatch smaller resources.[211] We disagree with EEI that the Commission lacked sufficient evidence to support a minimum size requirement of 100 kW. As the Commission stated in Order No. 841, both PJM and SPP have a minimum size requirement of 100 kW for all resources, and all of the RTOs/ISOs have at least one participation model that allows resources as small as 100 kW to participate in their markets.[212] We continue to find this evidence sufficient to demonstrate that all RTOs/ISOs already have the modeling and dispatch software capabilities to accommodate the participation of resources that are as small as 100 kW.

103. EEI argues that the implementation costs of the minimum size requirement will outweigh any benefits and RTOs/ISOs and distribution utilities may not be able to manage the volume of smaller resources to participate in RTO/ISO markets and interconnect to the distribution system. We disagree. As stated in the Final Rule, we

[211] *See* Order No. 841, 162 FERC ¶ 61,127 at P 271.

[212] *Id.* P 272 (citing CAISO Data Request Response at 10-11; ISO-NE Data Request Response at 13-14; MISO Data Request Response at 10; NYISO Data Request Response at 9; PJM Data Request Response at 10; SPP Data Request Response at 5).

(continued ...)

acknowledge that the 100 kW minimum size requirement is a balance between the benefits of increased competition fostered by the opportunity for smaller resources to participate in the RTO/ISO markets using the electric storage resource participation model and the potential need to update RTO/ISO market clearing software to effectively model and dispatch these smaller resources.[213] Based on the record before us, we find that the benefits of increased competition will outweigh implementation costs, especially given that all RTOs/ISOs are already accommodating the participation of smaller resources in their markets, as demonstrated in the Final Rule.[214]

104. With respect to EEI's and MISO's concerns about the volume of smaller resources that may seek to participate in RTO/ISO markets and interconnect to the distribution system, in the Final Rule, the Commission recognized that there are currently fewer 100 kW resources than there may be in the future. While we recognize that EEI argues for greater flexibility for each RTO/ISO to establish its own minimum size requirement as an initial matter, for the reasons discussed above,[215] we continue to find that it is reasonable to establish a minimum size requirement not to exceed 100 kW for the participation model for electric storage resources.

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[213] *See id.* P 271.

[214] *See id.* P 272 (citing CAISO Data Request Response at 10-11; ISO-NE Data Request Response at 13-14; MISO Data Request Response at 10; NYISO Data Request Response at 9; PJM Data Request Response at 10; SPP Data Request Response at 5).

[215] *See supra* P 103.

(continued ...)

105. For these reasons, we also deny MISO's request for clarification or, in the alternative, rehearing that it may phase in the implementation of the minimum size requirement. We continue to believe that, given the record showing that all RTOs/ISOs are already accommodating the participation of smaller resources in their markets[216] and the Commission's willingness to consider requests to increase the minimum size requirement in the future, we are providing the RTOs/ISOs with adequate time to develop the requisite tariff language and update their modeling and dispatch software to comply with Order No. 841.[217] MISO's arguments on rehearing do not convince us otherwise. As the Commission stated in the Final Rule, upon implementation, if an RTO/ISO, including MISO, finds that it is experiencing difficulty calculating efficient market results and there is not a viable software solution for improving such calculations, it may file with the Commission demonstrating such and proposing to increase the minimum size requirement for its electric storage resource participation model.[218] Further, as stated in the Final Rule, a minimum size requirement that does not exceed 100 kW does not

[216] *See* Order No. 841, 162 FERC ¶ 61,127 at P 272 (citing CAISO Data Request Response at 10-11; ISO-NE Data Request Response at 13-14; MISO Data Request Response at 10; NYISO Data Request Response at 9; PJM Data Request Response at 10; SPP Data Request Response at 5).

[217] *See id.* P 275. The Commission provided RTOs/ISOs with 270 days after the publication of the Final Rule in the Federal Register to file the tariff changes (i.e., December 3, 2018) and a further 365 days from that date to implement the tariff provisions.

[218] *See id.*

(continued ...)

change the responsibilities of the RTOs/ISOs or the distribution utilities, and it does not change the ability of distribution utilities to allocate any costs that they incur in operating and maintaining their respective power systems.[219]

106. Finally, in response to MISO's request for clarification that the 100 kW limit does not apply to the Minimum Charge Limit or Minimum Discharge Limit, we clarify that the minimum size requirement does not prohibit an RTO/ISO from establishing a minimum size limit that is lower than 100 kW on any minimum capacity requirements, minimum offer to sell requirements, or minimum bid to buy requirements. Therefore, it is possible that the quantities for the Minimum Charge Limit and Minimum Discharge Limit may be smaller than 100 kW for resources using the participation model for electric storage resources. However, we do not specify how the minimum size requirement may affect the quantities submitted for some of the physical and operational characteristics of electric storage resources, and will not prejudge how the RTOs/ISOs may propose any such relationships between the minimum size requirement and the physical and operational characteristics of resources using the participation model for electric storage resources.

[219] *Id.* P 274.

G. Energy Used to Charge Electric Storage Resources (Charging Energy)

1. Price for Charging Energy

a. Final Rule

107. In Order No. 841, the Commission added § 35.28(g)(9)(ii) to the Commission's regulations to require that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.[220] The Commission stated that this requirement will apply regardless of whether the electric storage resource is using the participation model for electric storage resources or another participation model to participate in the RTO/ISO markets, as long as the resource meets the definition of an electric storage resource set forth in Order No. 841. The Commission noted that it found that the sale of energy from the grid that is used to charge electric storage resources for later resale into the energy or ancillary service markets constitutes a sale for resale in interstate commerce.[221] The Commission stated that, as such, the just and reasonable rate for that wholesale sale of energy used to charge that electric storage resource is the RTO/ISO market's wholesale LMP, regardless of whether the electric storage resource uses the participation model for electric storage resources.[222]

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[220] *Id.* P 294.

[221] *Id.* (citing *Norton Energy Storage,* 95 FERC at 62,701-02).

[222] *Id.*

(continued ...)

108. In addition, the Commission disagreed with some commenters' contention that transmission charges that apply to load should not apply to electric storage resources.[223] The Commission stated that, when an electric storage resource is charging to resell energy at a later time, then its behavior is similar to other load-serving entities and applicable transmission charges should apply. However, in response to the concern that transmission charges should not apply when an electric storage resource is dispatched by an RTO/ISO, the Commission found that electric storage resources that are dispatched to consume electricity to provide a service in the RTO/ISO markets (such as frequency regulation or a downward ramping service) should not pay the same transmission charges as load during the provision of that service.[224] The Commission found that this would be consistent with the treatment afforded traditional generation resources that provide ancillary services because they are not charged for their impacts on the transmission system when they reduce their output to provide a service such as frequency regulation down. Therefore, the Commission found that electric storage resources should not be charged transmission charges when they are dispatched by an RTO/ISO to provide a service because (1) their physical impacts on the bulk power system are comparable to traditional generators providing the same service and (2) assessing transmission charges when they are dispatched to provide a service would create a disincentive for them to provide the service.

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[223] *Id.* P 297.

[224] *Id.* P 298.

109. With respect to concerns about electric storage resources' use of the distribution system, the Commission noted that, in *PJM Interconnection LLC*, the Commission permitted a distribution utility to assess a wholesale distribution charge to an electric storage resource participating in the PJM markets.[225] Consistent with this precedent, the Commission found that it may be appropriate, on a case-by-case basis, for distribution utilities to assess a charge on electric storage resources similar to those assessed to the market participant in that proceeding.

b. Requests for Rehearing or Clarification

110. Pacific Gas and Electric requests that the Commission clarify that nothing in Order No. 841 is intended to suggest that the state no longer has jurisdiction to determine how power flowing from the distribution grid, through the customer meter, and then into the electric storage resource located behind the customer meter is to be split between retail consumption and wholesale charging for later discharge into the wholesale markets.[226] Pacific Gas and Electric argues that the Final Rule implies that the state has the authority to determine whether the power flowing through the customer meter, or some fraction of it, is appropriately categorized as wholesale charging or whether all of it must be

[225] *Id.* P 301 (citing *PJM Interconnection L.L.C.*, 149 FERC ¶ 61,185 at P 12 (wholesale distribution charge that ComEd will assess to Energy Vault is a weighted average carrying charge that is applied on a case-by-case basis, depending on the distribution facilities expected to be used in providing wholesale distribution service), *order on reh'g*, 151 FERC ¶ 61,231 at PP 16-18).

[226] Pacific Gas and Electric Rehearing Request at 2.

(continued ...)

determined to be retail usage.[227] Pacific Gas and Electric asserts that, if the Commission were to conclude that the state no longer has this authority, then a retail customer could use its behind-the-retail-meter electric storage resource as a means to completely bypass retail rates for its on-site electricity consumption by claiming that the electricity is for later discharge into the wholesale markets, whether or not that discharge actually occurs.[228]

111. Both California Energy Storage Alliance and CAISO contend that the Final Rule presents conflicting positions on whether transmission charges should apply to wholesale charging energy purchased for later resale.[229] Specifically, they note that, in paragraph 298 of Order No. 841, the Commission found that "electric storage resources should not be charged transmission charges when they are dispatched by an RTO/ISO to provide a service…."[230] They point out that, in contrast, in paragraph 297 of the Final Rule, the

[227] *Id.* (citing Order No. 841, 162 FERC ¶ 61,127 at P 325 (To the extent that the host distribution utility is unable – due to a lack of the necessary metering infrastructure and accounting practices – or unwilling to net out any energy purchases associated with a resource using the participation model for electric storage resources' wholesale charging activities from the host customer's retail bill, the RTO/ISO would be prevented from charging that resource using the participation model for electric storage resources electric wholesale rates for the charging energy for which it is already paying retail rates.)).

[228] *Id.* at 2-3.

[229] California Energy Storage Alliance Rehearing Request at 2; CAISO Rehearing Request at 11.

[230] California Energy Storage Alliance Rehearing Request at 2 (citing Order No. 841, 162 FERC ¶ 61,127 at P 298); CAISO Rehearing Request at 11 (citing Order No. 841, 162 FERC ¶ 61,127 at P 298).

(continued ...)

Commission stated that "[w]hen an electric storage resource is charging to resell energy at a later time, then its behavior is similar to other load-serving entities, and we find that applicable transmission charges should apply."[231]

112. According to California Energy Storage Alliance, transmission charges should not apply to wholesale charging energy that an electric storage resource later resells. In support of its position, California Energy Storage Alliance argues that applying transmission charges in CAISO would result in an unreasonable "double-application" of those charges: once to the electric storage resource purchasing its charging energy at wholesale and once to the load that the energy is used to serve or the export transaction that it is needed to support. California Energy Storage Alliance further contends that this double-billing would be unduly and financially burdensome for electric storage resources.[232]

113. CAISO argues that requiring an RTO/ISO to assess transmission charges on an electric storage resource's charging demand could blunt electric storage resources' market effectiveness and financial viability and inappropriately shifts transmission costs into energy markets, which is inconsistent with Commission precedent.[233] According to

[231] California Energy Storage Alliance Rehearing Request at 2 (citing Order No. 841, 162 FERC ¶ 61,127 at 297); CAISO Rehearing Request at 11 (citing Order No. 841, 162 FERC ¶ 61,127 at P 297).

[232] California Energy Storage Alliance Rehearing Request at 2-3.

[233] CAISO Rehearing Request at 5-6, 11-13 (citing *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,211 (2010); *Reform of Generator Interconnection Procedures and Agreements*, 157 FERC ¶ 61,212, at PP 226-230 (2017)).

CAISO, unlike load-serving entities with firm load and little to no ability to curb or curtail demand, electric storage resources can charge during periods of excess generation and low prices, thereby shifting demand to combat over-generation, providing ramping flexibility, addressing negative prices, and mitigating potential reliability issues in systems like CAISO that operate with a high degree of supply and demand variability. CAISO argues that requiring RTOs/ISOs to assess transmission charges on electric storage devices will force such resources to include those costs in their market bids, thus affecting energy market prices.[234]

114. With respect to Commission precedent on this issue, CAISO claims that requiring electric storage resources to pay transmission charges would contravene prior Commission precedent, such as CAISO's Commission-accepted non-generator resource model, which treats non-generator resource demand as negative generation and does not require it to pay transmission charges.[235] CAISO maintains that, since the acceptance of the non-generator resource model, the Commission has noted in other proceedings that the negative generation model is a best practice that "may allow transmission providers to better account for the transitions of electric storage resources between generation and

[234] *Id.* at 5-6, 11-13.

[235] *Id.* at 12 (citing *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,211 (2010)).

(continued ...)

load and may better enable the use of existing generator interconnection procedures and agreements due to their treatment as negative generation instead of load."[236]

115. For these reasons, CAISO asks the Commission to clarify that RTOs/ISOs may, but are not required to, impose transmission charges on electric storage resources when they are charging pursuant to RTO/ISO dispatch. Alternatively, CAISO asks the Commission to clarify that each RTO/ISO may determine (1) what types of charging activities would not cause an electric storage resource to incur transmission charges, (2) that those services are not limited to ancillary services, and (3) that charging pursuant to economic dispatch may qualify as such a service.[237] According to CAISO, charging an electric storage resource when it is economic to do so as instructed by the RTO/ISO to help balance the system is a critically important "service" that electric storage resources provide the grid.[238]

116. Finally, CAISO seeks clarification that electric storage resources participating as transmission resources under the Commission's Policy Statement should not incur transmission charges for their charging demand.[239] CAISO notes that it may soon

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[236] *Id.* (citing *Reform of Generator Interconnection Procedures and Agreements*, 157 FERC ¶ 61,212 at PP 226-230).

[237] *Id.* at 5.

[238] *Id.* at 5, 11.

[239] *Id.* at 12-13 (referencing *Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Rate Recovery*, 158 FERC ¶ 61,051 (2017)).

(continued ...)

approve a proposal to allow electric storage resources to provide reliability/transmission services in its transmission planning process and that these resources would then be eligible to recover some of their costs through regulated transmission rates and the remainder through participation in the wholesale markets. CAISO explains that whether these resources will incur transmission charges for charging will significantly affect their projected costs in competitive solicitations, as well as how the resource intends to recover those costs.[240]

117. EEI seeks clarification and Xcel Energy Services seeks rehearing of the Commission's finding in Order No. 841 that it may be appropriate, on a case-by-case basis, for distribution utilities to assess a charge on electric storage resources similar to those assessed to the market participant in *PJM Interconnection LLC*. They explain that, in *PJM Interconnection LLC*, the Commission permitted the distribution utility to establish a wholesale distribution rate that was based on the carrying charges associated with the distribution facilities that would be used to provide wholesale distribution service to a particular electric storage resource. According to EEI and Xcel Energy Services, a customer-specific methodology for assessing wholesale distribution charges may no longer be appropriate when there are a large number of distribution-connected electric storage resources participating in the wholesale markets.[241] EEI further argues

[240] *Id.* at 13.

[241] EEI Rehearing Request at 12; Xcel Energy Services Rehearing Request at 27-28.

(continued ...)

that it would be unduly burdensome to require a distribution utility to establish a separate, facility-specific rate for each individual electric storage resource's use of the distribution system,[242] while Xcel Energy Services contends that establishing such rates would involve significant regulatory development and filing costs and could even be unworkable given that the distribution system is periodically reconfigured based on system conditions.[243]

118. Therefore, EEI seeks clarification on what the Commission meant by "case-by-case basis," stating that the Commission should not dismiss as per se unreasonable a proposal to establish a non-facility-specific rate for wholesale distribution service to charging load.[244] Similarly, Xcel Energy Services asks the Commission to grant rehearing of its decision to permit wholesale distribution charges on only a "case-by-case basis" and permit more generic wholesale distribution rates or tariffs.[245]

c. Commission Determination

119. We deny Pacific Gas and Electric's request to clarify that states have jurisdiction to determine how power flowing from the distribution grid into the electric storage resource located behind the customer meter is split between retail consumption and

[242] EEI Rehearing Request at 12.

[243] Xcel Energy Services Rehearing Request at 29.

[244] EEI Rehearing Request at 11-12.

[245] Xcel Energy Services Rehearing Request at 28, 30.

(continued ...)

wholesale charging for later discharge into the wholesale markets. In the Final Rule, the Commission noted that it found that the sale of energy from the grid that is used to charge electric storage resources for later resale into the energy or ancillary service markets constitutes a sale for resale in interstate commerce; as such, the just and reasonable rate for that wholesale sale of energy used to charge that electric storage resource is the RTO/ISO market's wholesale LMP.[246] However, we reiterate that the Commission's finding regarding charging energy did not address payment of the retail rate for energy. Thus, Order No. 841 does not authorize electric storage resources to bypass retail rates for its on-site electricity consumption, as Pacific Gas & Electric suggests.[247]

120. In response to CAISO's arguments, we acknowledge that the participation of electric storage resources in RTO/ISO markets may convey a range of benefits, particularly under certain system conditions, but we cannot conclude based on the record before us that an electric storage resource charging when it is economic to do so necessarily constitutes the provision of a service in the RTO/ISO markets, though it may provide a service in some specific circumstances. Thus, we decline to grant clarification that charging pursuant to economic dispatch always qualifies as a service. However, we clarify that services do not need to be limited to ancillary services; they could include any service defined in an RTO/ISO tariff. To the extent that an RTO/ISO seeks to create a

[246] Order No. 841, 162 FERC ¶ 61,127 at P 294.

[247] *See id.* PP 323-324.

(continued ...)

new service that would involve charging pursuant to economic dispatch under certain system conditions, the RTO/ISO may propose such revisions to its tariff through a separate FPA section 205 filing.[248]

121. We also grant clarification of the Commission's finding in paragraph 297 that applicable transmission charges should apply when an electric storage resource is charging to resell energy at a later time. In response to the concerns of CAISO and California Energy Storage Alliance, we clarify that, in paragraph 297 of the Final Rule, the Commission's use of the phrase "applicable transmission charges" was intended to convey that an RTO/ISO may propose to apply its existing rate structure for transmission charges to an electric storage resource that is charging at wholesale but is not being dispatched by the RTO/ISO to provide a service in the RTO/ISO markets. Thus, each RTO/ISO may on compliance propose that any electric storage resource that is charging at wholesale but is not being dispatched by the RTO/ISO to provide a service should be assessed charges consistent with how the RTO/ISO assesses transmission charges to wholesale load under its existing rate structure. We further clarify that, if an RTO/ISO proposes not to apply transmission charges to an electric storage resource that is charging at wholesale but is not being dispatched by the RTO/ISO to provide a service, then the RTO/ISO must demonstrate that exempting such a resource from these charges is reasonable given its existing rate structure for transmission charges.

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[248] *See* 16 U.S.C. 824d.

(continued ...)

122. We find that CAISO's request for clarification that electric storage resources participating as transmission resources, as described in the Commission's Policy Statement,[249] should not incur transmission charges for charging demand is premature because CAISO has not yet filed a proposal to allow electric storage resources to provide transmission or reliability services under the Policy Statement. We find that it is appropriate to address CAISO's concerns related to resources that might seek to recover their costs through both regulated transmission rates and the wholesale markets in the context of a specific proposal involving resources that provide multiple services and seek to recover their costs through both cost-based and market-based rates concurrently. We therefore deny clarification that such resources should not incur transmission charges for charging demand and decline to address CAISO's concerns here.

123. In response to concerns regarding the Commission's finding that it may be appropriate, on a case-by-case basis, for distribution utilities to assess a charge on electric storage resources similar to those assessed to the market participant in *PJM Interconnection L.L.C.*,[250] we grant EEI's requested clarification. Specifically, we clarify that the Commission will not dismiss as per se unreasonable any proposal to establish a non-facility-specific rate for wholesale distribution service to an electric storage resource for its charging. Rather, the Commission will consider any proposal to establish a rate

[249] *See Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Rate Recovery*, 158 FERC ¶ 61,051.

[250] *See* Order No. 841, 162 FERC ¶ 61,127 at P 301 (citing *PJM Interconnection L.L.C.*, 149 FERC ¶ 61,185 at P 12, *order on reh'g*, 151 FERC ¶ 61,231 at PP 16-18).

for providing wholesale distribution service to an electric storage resource for its charging (whether a facility-specific rate, a wholesale distribution service rate that applies to all or some subset of electric storage resources, a generally applicable wholesale distribution service tariff, or any other rate mechanism) on a case-by-case basis in light of the record evidence. Accordingly, we find that Xcel Energy Services' request for rehearing of this issue is moot.

2. Metering and Accounting Practices for Charging Energy

a. Final Rule

124. To help implement the new requirement in § 35.28(g)(9)(ii) of the Commission's regulations, in Order No. 841, the Commission required each RTO/ISO to implement metering and accounting practices as needed to address the complexities of implementing the requirement that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.[251] To this end, the Commission required each RTO/ISO to directly meter electric storage resources, so all the energy entering and exiting the resources is measured by that meter. However, the Commission recognized that some electric storage resources (such as those located on a distribution system or behind a customer meter) may be subject to other metering requirements that could be used in lieu of a direct metering requirement by an RTO/ISO. Therefore, the Commission stated that it will consider, in the individual RTO/ISO compliance filings, alternative proposals that may not entail direct metering but

[251] *Id.* P 322.

nonetheless address the complexities of implementing the requirement that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.

125. The Commission was not persuaded by commenters who argued that developing metering practices that distinguish between wholesale and retail activity is impractically complex.[252] The Commission noted that CAISO provided two examples of how it has achieved market rules that accurately account for wholesale and retail activities by using direct metering. Additionally, the Commission stated that retail metering infrastructure, which is subject to state jurisdiction, may be able to work in concert with the RTO/ISO requirements to lower the overall metering costs for electric storage resources. Therefore, the Commission provided each RTO/ISO with the flexibility to propose in its compliance filing other reasonable metering solutions that may help reduce costs for developers.

126. The Commission further found that developing new accounting practices for electric storage resources in response to this requirement will be complex, but nonetheless found that they are feasible to develop.[253] The Commission recognized that it may be beneficial for each RTO/ISO to coordinate accounting requirements in cooperation with the distribution utilities and RERRAs in its footprint to help identify workable accounting solutions for distribution-interconnected or behind-the-meter

[252] *Id.* P 323.

[253] *Id.* P 324.

electric storage resources to participate in the RTO/ISO markets. The Commission also found that metering and accounting rules may need to differ based on whether the resource is located on the transmission system, the distribution system, or behind the meter.

127. As a related matter, the Commission found that electric storage resources should not be required to pay both the wholesale and retail price for the same charging energy because doing so would create market inefficiencies due to the double payment.[254] Therefore, the Commission required each RTO/ISO to prevent electric storage resources from paying twice for the same charging energy. The Commission stated that, to the extent that the host distribution utility is unwilling or unable—due to a lack of the necessary metering infrastructure and accounting practices—to net out any energy purchases associated with an electric storage resource's wholesale charging activities from the host customer's retail bill, the RTO/ISO would be prevented from charging that resource electric wholesale rates for the same charging energy that it is already paying for through retail rates.

[254] *Id.* P 326. Paragraph 326 of the preamble of Order No. 841 used the term "resources using the participation model for electric storage resources" with respect to the requirements set forth therein (e.g., "we require each RTO/ISO to prevent resources using the participation model for electric storage resources from paying twice for the same charging energy"). However, §35.28(g)(9)(ii) of the Commission's regulations (as modified by Order No. 841), which these requirements are intended to implement, specifies that it applies to electric storage resources. Thus, the Commission used the incorrect term in paragraph 326 of Order No. 841. In this order, we use the correct term throughout.

(continued ...)

128. Finally, the Commission stated that it was not persuaded by commenters' suggestion that electric storage resources must choose to participate in either wholesale or retail markets due to the complexity of the metering and accounting practices.[255] The Commission found that it is possible for electric storage resources that are selling retail services also to be technically capable of providing wholesale services, and it would adversely affect competition in the RTO/ISO markets if these technically capable resources were excluded from participation.

b. Requests for Rehearing or Clarification

129. Several petitioners request rehearing or clarification with respect to Order No. 841's requirements related to metering and accounting practices. First, CAISO requests that the Commission clarify or, in the alternative, grant rehearing that the RTO/ISO does not need to be the entity that directly meters electric storage resources. CAISO explains that it is a common and useful practice in RTOs/ISOs for third parties, such as a scheduling coordinator, to perform the metering, validation, estimation, and editing to submit settlement quality meter data to the RTO/ISO, which the RTO/ISO then ensures is accurate. CAISO argues that a requirement for the RTO/ISO to be the sole entity directly metering electric storage resources is inconsistent with previous precedent, inconsistent

[255] *Id.* P 325.

(continued ...)

with RTOs'/ISOs' current just and reasonable metering practices, and unnecessarily restrictive for electric storage resources and RTOs/ISOs.[256]

130. With respect to Order No. 841's requirement that, to the extent that the host distribution utility is unable or unwilling to net out any energy purchases associated with an electric storage resource's wholesale charging activities from the host customer's retail bill, the RTO/ISO may not charge that resource for the charging energy for which it is already paying retail rates, CAISO states that it is unclear what constitutes a utility that is unwilling or unable to net out wholesale charging energy from an electric storage resource's total demand. Therefore, CAISO asks the Commission to clarify or, in the alternative, grant rehearing that an RTO/ISO could require verification from the host distribution utility that it is unable or unwilling to net wholesale demand from retail settlement before the RTO/ISO ceases to settle an electric storage resources' wholesale demand at the wholesale LMP. CAISO contends that this clarification is especially critical for electric storage resources that are located on the distribution system or behind the meter and participating in the CAISO market because they may be providing services to other entities.[257]

131. Relatedly, CAISO asks the Commission to clarify or, in the alternative, grant rehearing that, when an RTO/ISO cannot verify that the host distribution utility is unable

[256] CAISO Rehearing Request at 6-8 (citing *Cal. Indep. Sys. Operator Corp.*, Docket No. ER17-949-000 (Mar. 31, 2017) (delegated order)).

[257] *Id.* at 9-11.

or unwilling to net wholesale demand from retail settlement, the RTO/ISO can either (1) require the electric storage resource to use a participation model designed for retail customer participation (such as demand response) or (2) continue settling the electric storage resource's charging demand at the wholesale LMP. According to CAISO, this clarification is necessary because prohibiting certain electric storage resources from having their demand settled at the wholesale LMP (1) will require new participation models, modeling, and software upgrades; (2) could materially affect how that resource bids, potentially distorting the market; and (3) could negatively affect the host utility distribution company's settlement charges, in the form of unaccounted for energy, for example.[258]

132. Both TAPS and Xcel Energy Services request rehearing of the Commission's decision in Order No. 841 to decline to require electric storage resources located on the distribution system or behind the meter to participate exclusively either in the wholesale markets or at retail.[259] Xcel Energy Services contends that it is difficult to see how an RTO/ISO can differentiate between the wholesale and retail activities of an electric storage resource located on the distribution system or behind the meter without compelling entities that are not Commission jurisdictional, such as loads and distribution

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

[259] TAPS Rehearing Request at 12; Xcel Energy Services Rehearing Request at 17, 20.

(continued ...)

utilities, to provide information on their sales to and purchases from such a resource.[260]

133. TAPS states that, to ensure that an electric storage resource that is located on the distribution system or behind the meter does not "improperly evade the distribution utility's retail service" through its participation in the RTO/ISO markets, the Commission must ensure that any energy that such resources purchase from the RTO/ISO markets is resold.[261] TAPS further argues that allowing an electric storage resource located on the distribution system or behind the meter to participate both in the wholesale markets and at retail could provide its owner with the opportunity to simultaneously purchase energy at retail and sell energy to the wholesale market at a higher price, thus shifting costs to other retail customers without ever changing the physical State of Charge of its electric storage resource.[262]

134. According to TAPS, normal revenue-quality metering is inadequate to address these concerns because it requires knowledge of two separate energy level balances (one for wholesale energy and one for retail energy) rather than simply the total energy balance. TAPS contends that maintaining and auditing a system to track this information would be complicated and expensive.[263] TAPS adds that the market rules in CAISO that the

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[260] Xcel Energy Services Rehearing Request at 20.

[261] TAPS Rehearing Request at 13.

[262] *Id.* at 14.

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

(continued ...)

Commission claimed accurately account for wholesale and retail activities do not address the issues that TAPS has identified.[264]

135. Similarly, Xcel Energy Services argues that the Commission's reliance on CAISO's market rules to support its decision not to preclude electric storage resources located on the distribution system or behind the meter from participating both in the wholesale markets and at retail was misplaced. Specifically, Xcel Energy Services contends that CAISO's market rules do not provide for tracking retail purchases, retail sales, wholesale purchases, and wholesale sales all at the same time, and thus they do not allow an RTO/ISO to distinguish between the wholesale and retail activities of electric storage resources located on the distribution system or behind the meter that seek to participate in its markets. Xcel Energy Services states that, instead, CAISO's market rules only account for resources that are selling exclusively at wholesale or at retail at a given point in time (as opposed to providing services at wholesale and at retail during the same time period). According to Xcel Energy Services, CAISO's market rules also fail to account for multiple resources and retail loads behind a single meter. Xcel Energy Services adds that, even if CAISO's market rules were sufficient, they do not support a finding that other RTOs/ISOs, whose member utilities all have their own requirements for metering, billing systems, and other supporting software and Information Technology (IT) platforms, could necessarily adopt them.[265]

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[264] *Id.* at 15 (citing Order No. 841, 162 FERC ¶ 61,127 at P 318).

[265] Xcel Energy Services Rehearing Request at 17-20.

136. Finally, TAPS also argues that the Commission's decision on TAPS's proposal to require distribution-connected electric storage resources to choose between wholesale and retail participation was premature given that the issues that TAPS raised are within the scope of the distributed energy resource aggregation-related issues which the Commission determined in Order No. 841 that it did not have sufficient information to act upon. Therefore, TAPS argues that the Commission should have deferred its decision until after the technical conference in Docket No. RM18-9-000.[266]

137. EEI asks the Commission to clarify that it is the responsibility of the electric storage resource located on the distribution system or behind the meter to pay for any metering or other costs associated with distinguishing between its wholesale and retail activities; if they are not given that responsibility, then EEI argues that the entire load can and should be treated as retail load. EEI contends that this clarification reflects the statement in Order No. 841 that the finding regarding charging energy does not address payment of the retail rate for energy or charging a device off of co-located generation resources.[267]

c. Commission Determination

138. As an initial matter, we clarify, in response to CAISO, that the RTO/ISO itself does not need to be the entity that directly meters electric storage resources. We also grant CAISO's request to clarify that an RTO/ISO could require verification from the

[266] TAPS Rehearing Request at 16-17.

[267] EEI Request for Rehearing and Clarification at 12 (citing Order No. 841, 162 FERC ¶ 61,127 at P 299).

(continued ...)

host distribution utility that it is unable or unwilling to net wholesale demand from retail settlement before the RTO/ISO ceases to settle an electric storage resource's wholesale demand at the wholesale LMP. While Order No. 841 stated that each RTO/ISO must prevent electric storage resources from paying twice for the same charging energy,[268] it did not specify how each RTO/ISO must implement this requirement. Therefore, we clarify that the Commission will consider on compliance each RTO's/ISO's proposal to identify whether a distribution utility is unable or unwilling to net out from a host customer's retail bill the wholesale energy purchases associated with charging an electric storage resource that is participating in the RTO/ISO market from the host customer's retail bill.

139. However, we deny CAISO's request for clarification or, in the alternative, rehearing that when an RTO/ISO cannot verify the host distribution utility's inability or unwillingness to net out wholesale charging energy, the RTO/ISO can require the electric storage resource to use a participation model designed for retail customer participation. In Order No. 841, the Commission stated that each RTO/ISO must prevent electric storage resources from paying twice for the same charging energy.[269] While the Commission provided flexibility with respect to how each RTO/ISO implements that requirement, we find it inappropriate for an RTO/ISO to meet that requirement by requiring an electric storage resource to use a participation model designed for retail

[268] Order No. 841, 162 FERC ¶ 61,127 at P 326.

[269] *Id.*

customer participation. Consistent with Order No. 841, we reiterate that, to the extent that the host distribution utility is unable or unwilling to net out any energy purchases associated with a resource using the participation model for electric storage resources' wholesale charging activities from the host customer's retail bill, the RTO/ISO must determine how it will prevent an electric storage resource participating in its markets from being charged wholesale rates for charging energy for which it already is paying retail rates.[270]

140. We deny TAPS' and Xcel Energy Services' requests for rehearing regarding the Commission's decision to decline to require electric storage resources to choose to participate exclusively in either wholesale or retail markets due to the complexity of the metering and accounting practices. While we agree with TAPS and Xcel Energy Services that appropriate metering and accounting practices will be necessary to distinguish between wholesale and retail activity, we disagree that these practices would be prohibitively complex or costly to develop and implement given the flexibility provided to the RTOs/ISOs to propose reasonable approaches.[271] As the Commission stated in Order No. 841, retail metering infrastructure also may be able to work in concert with the RTO/ISO requirements to lower the overall metering costs.[272]

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[270] *Id.*

[271] *See id.* PP 323-324.

[272] *Id.* P 323.

141. Further, TAPS and Xcel Energy Services argue that CAISO's metering and accounting practices are insufficient to allow for the implementation of Order No. 841's requirement that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP. Therefore, TAPS and Xcel Energy Services argue that the Commission's reliance on these practices as evidence that establishing such metering and accounting practices is possible is misplaced. We disagree. The Commission relied on CAISO's metering and accounting practices to demonstrate that direct metering for behind-the-meter resources can remove barriers to their participation in RTO/ISO markets, not necessarily as an example of metering and accounting that would comply with the requirements of the Final Rule. Moreover, in Order No. 841, the Commission chose not to prescribe particular metering and accounting practices that each RTO/ISO must adopt, instead providing flexibility for each RTO/ISO to develop practices that reflect its unique market rules and its member utilities' requirements for metering, billing systems, and other supporting software and IT platforms.

142. TAPS also argues that the Commission's decision not to require electric storage resources to choose to participate exclusively in either wholesale or retail markets will allow resources using the participation model for electric storage resources to evade the distribution utility's retail service or simultaneously buy electricity at the retail rate and sell it at the wholesale LMP. While we acknowledge these concerns, we believe that each RTO/ISO can address these issues by developing its metering and accounting requirements in cooperation with the distribution utilities and RERRAs in its footprint, as

the Commission recognized in Order No. 841.[273] In addition, we note that, when the Commission stated in Order No. 841 that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP, it was referring to the sale of energy from the grid that is used to charge electric storage resources for later resale into the energy or ancillary service markets.[274] To the extent that TAPS has concerns that a particular RTO's/ISO's proposed metering and accounting practices do not address these issues, TAPS may raise these concerns in response to the RTO's/ISO's compliance filing.

143. Finally, we disagree with TAPS' contention that the Commission should have deferred action on this issue until after the technical conference in Docket No. RM18-9-000. The technical conference in Docket No. RM18-9-000 focused on issues relating to distributed energy resource aggregations, while Order No. 841 addresses the participation of non-aggregated electric storage resources in RTO/ISO markets. We find that the Commission had sufficient record evidence before it to determine whether to require electric storage resources to choose to participate exclusively in either wholesale or retail markets, regardless of its decision to gather more information with respect to its proposals to remove barriers to the participation of distributed energy resource aggregations in RTO/ISO markets in Docket No. RM18-9-000.[275]

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[273] *Id.* P 324.

[274] *Id.* P 294.

[275] *Id.* P 5.

144. In response to EEI, we decline to clarify whether an electric storage resource located on the distribution system or behind the meter is responsible for paying for any metering or other costs associated with distinguishing between its wholesale and retail activities. While EEI contends that its requested clarification relates to the Commission's statement in Order No. 841 that its finding regarding charging energy does not address payment of the retail rate for energy or charging a device off of co-located generation resources, Order No. 841 did not establish any requirement with respect to which entity should bear the costs of metering. Therefore, we find that this issue is outside the scope of this proceeding.

III. Compliance Requirements

A. Final Rule

145. In the Final Rule, the Commission required each RTO/ISO to file the tariff changes needed to implement the requirements of Order No. 841 within 270 days of the publication date of Order No. 841 in the Federal Register.[276] The Commission also allowed each RTO/ISO a further 365 days from that date to implement the tariff provisions. The Commission found that, given the modifications and clarifications to the NOPR made in Order No. 841, particularly the omission of the reforms relevant to distributed energy resource aggregations, and the record in this proceeding in support of

[276] *Id.* P 348.

(continued ...)

the reforms that the Commission finalized therein, the implementation schedule was reasonable.[277]

146. Additionally, the Commission noted that many of the RTOs/ISOs already have rules in place to enable the participation of electric storage resources in their markets.[278] The Commission further stated that the additional time that it provided for the RTOs/ISOs to make their compliance filings, along with the ability of the RTOs/ISOs to use existing tariff provisions to demonstrate compliance with aspects of the Final Rule, would mean that the RTOs/ISOs can meet the deadlines established therein. Finally, the Commission noted that it was allowing regional flexibility to the extent possible throughout the Final Rule, which it believed would assist the RTOs/ISOs in meeting the compliance and implementation deadlines.

B. Requests for Rehearing or Clarification

147. MISO, AMP/APPA/NRECA, and EEI raise issues relating to the relationship between the implementation of Order No. 841 and the Commission's decision therein to defer consideration of its proposals with respect to the participation of distributed energy resource aggregations in RTO/ISO markets. Both AMP/APPA/NRECA and EEI assert that, because some electric storage resources may be distributed energy resources, and a single electric storage resource may constitute a distributed energy resource aggregation,

[277] *Id.* P 349.

[278] *Id.* P 350.

(continued ...)

many of the issues raised at the technical conference in Docket No. RM18-9-000 are applicable to electric storage resources located on the distribution system or behind the meter.[279] They contend that it is unclear how the Commission can reasonably adopt final rules governing the participation of electric storage resources located on the distribution system or behind the meter in RTO/ISO markets while finding that additional information is needed prior to allowing distributed energy resource aggregations, which can include electric storage resources, to participate in those same markets.[280]

148. MISO asks the Commission to grant rehearing of the compliance date and extend Order No. 841's implementation timetable by at least six months with respect to matters that affect the potential participation of electric storage resources as distributed energy resources in RTO/ISO markets.[281] Moreover, MISO contends that it wishes to avoid devoting significant effort and expense to develop software and system adjustments to address the participation of distribution-connected electric storage resources, which may be significantly impacted by a final rule in Docket No. RM18-9-000.[282] According to MISO, the cost and time needed to "ensure the synergy of [electric storage resource] and

[279] APPA/NRECA Rehearing Request at 16; EEI Rehearing Request at 10.

[280] APPA/NRECA Rehearing Request at 16; EEI Rehearing Request at 11.

[281] MISO Rehearing Request at 13.

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

(continued ...)

[distributed energy resource]-related software changes are likely to be significant."[283] Therefore, MISO ask the Commission to further adjust the implementation timeframe for Order No. 841 if necessitated by any electric storage-resource related requirements in a final rule in Docket No. RM18-9-000.[284]

149. To ensure consistency, AMP/APPA/NRECA ask the Commission to clarify that the wholesale market participation by electric storage resources located on a distribution system or behind a retail meter will be subject to any final rule in Docket No. RM18-9-000.[285] Likewise, EEI asks the Commission to clarify that rules on the participation in the RTO/ISO markets of electric storage resources located on the distribution system or behind the meter should be informed by the discussion in Docket No. RM18-9-000.[286] Both AMP/APPA/NRECA and EEI also ask the Commission to determine that the RTO/ISO tariff revisions related to electric storage resources located on a distribution system or behind a retail meter made in compliance with Order No. 841 will not become effective until the effective date of the RTO/ISO tariff revisions related to distributed

[283] *Id.* at 11.

[284] *Id.* at 11, 13.

[285] AMP/APPA/NRECA Rehearing Request at 17.

[286] EEI Rehearing Request at 11.

(continued ...)

energy resource aggregations made in compliance with any final rule in Docket No. RM18-9-000.[287]

150. Xcel Energy Services contends that the Commission offered no evidence in Order No. 841 explaining why it chose a period of 270 days for each RTO/ISO to submit a compliance filing and a further 365 days to implement the tariff revisions proposed therein.[288] Xcel Energy Services argues that Order No. 841's inflexible compliance schedule appears inconsistent with other provisions in in Order No. 841 that acknowledge that each RTO/ISO will have to revise its tariff in a manner that recognizes the unique physical and operational characteristics of their markets and the effects of integrating electric storage resources.[289] Xcel Energy Services adds that, while the Commission acknowledged that the tariff revisions could require significant work on the part of the RTOs/ISOs, it did not explain what that significant work would encompass, the expected timeframe for completion, or why a longer time period may not be necessary to comply.[290] Xcel Energy Services also contends that implementing Order No. 841 will require IT systems that tie together transmission and distribution systems, along with wholesale and retail markets and metering. Thus, Xcel Energy Services asks the

[287] AMP/APPA/NRECA Rehearing Request at 17; EEI Rehearing Request at 11.

[288] Xcel Energy Services Rehearing Request at 21.

[289] *Id.* at 21.

[290] *Id.* at 22 (citing Order No. 841, 162 FERC ¶ 61,127 at P 343).

(continued ...)

Commission to grant rehearing to permit RTO/ISOs to propose their own implementation schedules that more appropriately reflect the unique characteristics of their systems.[291]

151. Xcel Energy Services also asks the Commission to grant rehearing to require RTOs/ISOs to collaborate with distribution utilities to develop a cost recovery mechanism for distribution utility upgrades and improvements required to implement Order No. 841.[292] Xcel Energy Services argues that, for distribution utilities, Order No. 841's implementation costs are disproportionate to the benefits they will receive, given that the beneficiaries of Order No. 841 are the RTO/ISO markets and their market participants.[293] Xcel Energy Services argues that, under FPA section 205, the costs that the distribution utilities incur must be commensurate with the benefits that they receive.[294] Xcel Energy Services argues that Order No. 841 will burden distribution utilities and their ratepayers because they will need to harden the underlying distribution system to support bidirectional power flows and pay for substantial metering upgrades for electric storage resources.[295] Xcel Energy Services adds that IT improvements to allow

[291] *Id.* at 22.

[292] *Id.* at 24-25.

[293] *Id.* at 22-23.

[294] *Id.* at 23 (citing *Ill. Commerce Comm'n v. FERC*, 576 F.3d 470, 477 (7th Cir. 2009); *El Paso Elec. Co. v. FERC*, 832 F.3d 495, 506 (5th Cir. 2016) (explaining that the Commission "need only roughly correlate costs to benefits")).

[295] *Id.* at 23-24.

(continued ...)

electric storage resources to engage in retail and wholesale transactions and to communicate with the RTO/ISO and distribution utility will be costly and will be of comparatively little benefit to distribution ratepayers and their utility.[296]

152. AES Companies ask the Commission to clarify that Order No. 841's compliance timeframe aligns with the Commission's compliance directive in Docket No. EL17-8-000.[297] AES Companies explain that, on February 1, 2017, the Commission issued an order[298] in Docket No. EL17-8-000 granting in part and denying in part a complaint filed by Indianapolis Power & Light Company, a member of AES Companies.[299] AES Companies explain that the Commission found in the February 1 Order that MISO's tariff "unreasonably restricts competition by preventing electric storage resources from providing all the services that they are technically capable of providing, which could lead to unjust and unreasonable rates."[300] AES Companies note that the Commission required MISO to submit a compliance filing proposing tariff revisions, within 60 days of the date of that order.[301] AES Companies therefore ask the Commission to clarify the scope and

[296] *Id.* at 24.

[297] AES Companies Rehearing Request at 1-2.

[298] *Indianapolis Power & Light Co. v. Midcontinent Indep. Sys. Operator, Inc.*, 158 FERC ¶ 61,107 (2017) (February 1 Order).

[299] AES Companies Rehearing Request at 2.

[300] *Id.* (citing February 1 Order, 158 FERC ¶ 61,107 at P 69).

[301] *Id.* at 2-3 (citing February 1 Order, 158 FERC ¶ 61,107 at P 72).

(continued ...)

timing of MISO's existing compliance obligation resulting from the February 1 Order, given that Order No. 841's requirements are similar to the compliance directive that the Commission issued in the February 1 Order.[302]

153. If the Commission determines that Order No. 841's requirements supersede the tariff changes that the Commission directed in the February 1 Order, such that MISO need not comply with the directives of the February 1 Order until the implementation date for Order No. 841's requirements, AES Companies argue that the Commission should direct MISO to examine and asses any modifications to its business practice manuals or software that could accommodate existing, presently-interconnected electric storage resources. AES Companies further ask the Commission to direct MISO to submit quarterly informational filings describing these efforts.[303]

C. Commission Determination

154. We deny the rehearing requests that seek to change the compliance deadlines established in Order No. 841. We continue to find that the timeline for compliance and implementation is reasonable.[304] Moreover, in establishing Order No. 841's compliance and implementation schedule, the Commission indicated that it was already "[t]aking into account that the Commission is not implementing the distributed energy resource

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

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

[304] Order No. 841, 162 FERC ¶ 61,127 at P 349.

(continued ...)

aggregation reforms [proposed in the NOPR] at this time…."[305] Also, because we find that Order No. 841's compliance timeframe is reasonable, we will not allow the individual RTOs/ISOs to propose their own timeframes.

155. We also decline to adjust the compliance timeframe to consider matters that affect distributed energy resources. In Order No. 841, the Commission found that more information was needed with respect to certain proposed reforms related to distributed energy resource aggregations and decided to continue to explore those proposed reforms in a separate proceeding in Docket No. RM18-9-000.[306] While Order No. 841 addresses the participation model for non-aggregated electric storage resources participating directly in the RTO/ISO markets, the proceeding in Docket No. RM18-9-000 involves issues related to RTO/ISO market rules for distributed energy resources participating through aggregations. Thus, no topic addressed in Docket No. RM18-9-000 limits the ability of the RTOs/ISOs to move forward with implementation of Order No. 841, and we do not find that it is necessary to delay the implementation of the reforms for electric storage resources located on the distribution system or behind the meter in Order No. 841 pending the outcome of the proceeding on distributed energy resource aggregations in Docket No. RM18-9-000.

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[305] *Id.* P 348. *See also id.* P 349 (noting that some commenters provided feedback on the NOPR indicating that acting on only the electric storage components would expedite compliance and implementation).

[306] *Id.* P 5.

156. Additionally, we deny Xcel Energy Services' request for rehearing regarding a cost recovery mechanism for distribution utility upgrades and improvements required to implement Order No. 841. The requirements of Order No. 841 apply to the RTOs/ISOs, not distribution utilities, and therefore this request is outside the scope of this proceeding. As stated in Order No. 841, we are not changing the responsibilities of the distribution utilities or their ability to allocate any costs that they incur in operating and maintaining their respective power systems.[307]

157. We find that AES Companies' concerns regarding the February 1 Order are moot. Since AES Companies requested rehearing in this docket, the Commission has issued orders[308] addressing these rehearing requests and MISO's compliance obligations in that separate proceeding. Any concerns AES Companies may have regarding MISO's compliance obligations in that separate proceeding are appropriately addressed in that proceeding and accordingly the Commission will not consider them here.

IV. Document Availability

158. In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through the Commission's Home Page (http://www.ferc.gov) and in the Commission's Public Reference Room during normal

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[307] *Id.* P 274.

[308] *Indianapolis Power & Light Co. v. Midcontinent Indep. Sys. Operator, Inc.*, 162 FERC ¶ 61,266 (2018); *Midcontinent Indep. Sys. Operator, Inc.*, 164 FERC ¶ 61,109 (2018).

business hours (8:30 a.m. to 5:00 p.m. Eastern time) at 888 First Street, NE, Room 2A, Washington, DC 20426.

159. From the Commission's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number of this document, excluding the last three digits, in the docket number field.

160. User assistance is available for eLibrary and the Commission's website during normal business hours from the Commission's Online Support at (202) 502-6652 (toll free at 1-866-208-3676) or email at ferconlinesupport@ferc.gov, or the Public Reference Room at (202) 502-8371, TTY (202) 502-8659. E-mail the Public Reference Room at public.referenceroom@ferc.gov.

List of Subjects in 18 CFR Part 35:

Electric power rates, Electric utilities

By the Commission. Commissioner McNamee is concurring in part and dissenting in part with a separate statement attached.

(S E A L)

Kimberly D. Bose,
Secretary.

Regulatory Text
In consideration of the foregoing, the Commission amends Part 35 Chapter 1, Title 18 of the *Code of Federal Regulations* as follows:

PART 35 – FILING OF RATE SCHEDULES AND TARIFFS

1. The authority citation for Part 35 continues to read as follows:

AUTHORITY: 16 U.S.C. 791a-825r, 2601-2645; 31 U.S.C. 9701; 42 U.S.C. 7101-7352.

2. In § 35.28, paragraph (g)(9)(i)(B) is revised as follows:

§ 35.28 Non-discrimination open access transmission tariff.
* * * * *
(g) * * *
(9) * * *
(i) * * *

(B) Enables a resource using the participation model for electric storage resources to be dispatched and ensures that such a resource can set the wholesale market clearing price as both a wholesale seller and wholesale buyer consistent with rules that govern the conditions under which a resource can set the wholesale price;

(B) ~~Ensures that~~ **Enables** a resource using the participation model for electric storage resources ~~can~~ **to** be dispatched and **ensures that such a dispatchable resource** can set the wholesale market clearing price as both a wholesale seller and wholesale buyer consistent with rules that govern the conditions under which a resource can set the wholesale price;
* * * * *

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators	Docket Nos.	RM16-23-001 AD16-20-001

(Issued May 16, 2019)

McNAMEE, Commissioner, *concurring in part and dissenting in part*:

1. Electric energy storage resources (ESRs) have the potential to transform the electricity industry. ESRs will allow the electric transmission system[1] to take full advantage of periods of high generation from intermittent resources, such as wind and solar, and use that energy in times when those resources are not available but energy is needed. Market participation by a growing number of ESRs also will enable greater shifting between generation and load – thereby enhancing reliability and market signals. Within the correct regulatory and policy framework, ESRs can unlock significant economic and market efficiency benefits that have to date eluded the electric industry, its regulators, and – most importantly – consumers. As the Commission stated in Order No. 841, "effective integration of electric storage resources into the RTO/ISO markets would enhance competition and, in turn, help to ensure that these markets produce just and reasonable rates."[2] Although I was not on the Commission when Order No. 841 was approved, I support its efforts to promote the participation of ESRs in the wholesale markets.

2. I write separately because I am concerned that, like Order No. 841, today's order on rehearing fails to recognize the states' interests in ESRs located behind a retail meter (behind-the-meter) or connected to distribution facilities.[3] I believe Order Nos. 841 and

[1] In this statement, I attempt to avoid use of the term "grid" because it is imprecise and can lead to jurisdictional confusion. The majority in today's order appears frequently to use the term "grid" without distinguishing whether it refers to the transmission system, distribution-level facilities, or both.

[2] *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841, 162 FERC ¶ 61,127, at P 12 (2018) (Order No. 841).

[3] In this statement, I use the term "states" to refer broadly to Relevant Electric
(continued ...)

841-A (Storage Orders) are on solid footing when they deal with ESRs connected to the transmission system and how ESRs may participate in the wholesale market, and I concur in those aspects of today's order. I am troubled, however, that the Storage Orders do not fully respect or consider the impact they may have on local distribution systems, the states that regulate those local distributions systems, and local retail customers. To that end, I dissent from today's order. I would have granted the rehearing requests asking the Commission to reconsider: (i) its finding that it has jurisdiction over whether ESRs located behind-the-meter or on the local distribution system are permitted to participate in the RTO/ISO markets through the ESR participation model and thereby asserting jurisdiction over distribution facilities;[4] and (ii) its failure to provide states the opportunity to opt-out of the participation model created by the Storage Orders.[5] In response to Order No. 841, the following entities either requested rehearing on or clarification of the Commission's assertion of jurisdiction over, or of its failure to provide an opt-out to the states related to, ESRs: National Association of Regulatory Utility Commissioners (NARUC);[6] the group consisting of American Municipal Power, Inc. (AMP), the American Public Power Association (APPA) and the National Rural Electric Cooperative Association (NRECA);[7] Edison Electric Institute (EEI);[8] Transmission

Retail Regulatory Authorities (RERRAs).

[4] *See, e.g.*, National Association of Regulatory Utility Commissioners Request for Clarification and Rehearing at 3-8 (NARUC Request for Rehearing); Organization of MISO States Amended Motion for Clarification at 3-6; Pacific Gas and Electric Company Motion for Clarification at 1-3 (PG&E Motion for Clarification).

[5] *See, e.g.*, Edison Electric Institute Request for Rehearing and Clarification at 7-8 (EEI Request for Rehearing); American Municipal Power, Inc., American Public Power Association, & the National Rural Electric Cooperative Association Request for Rehearing at 3 (AMP, APPA, & NRECA Request for Rehearing).

[6] *See generally* NARUC Request for Rehearing.

[7] AMP, APPA, & NRECA Request for Rehearing at 3, 11, 13-15.

[8] EEI Request for Rehearing at 3-8.

(continued ...)

Access Policy Study Group (TAPS);[9] Organization of MISO States;[10] Pacific Gas and Electric Company;[11] and Xcel Energy Services Inc. (Xcel).[12]

3. As set forth below, I conclude the majority has exceeded the Commission's jurisdictional authority by depriving the states of the ability to determine whether distribution-level ESRs may use distribution facilities so as to access the wholesale markets. By doing so, in my view, the Commission claimed jurisdiction over functions and assets reserved by statute to the states. Further, even if the majority thought they could rightly exercise jurisdiction in this matter, I think they should have furthered the path of "cooperative federalism"[13] by permitting the states to choose whether or not behind-the-meter and distribution-connected ESRs may participate in the wholesale markets through an opt-out provision.

I. The Commission Lacks Jurisdiction over ESRs Connecting at the Distribution Level or Behind-the-Meter

4. The analysis of whether the Commission has authority to effectively direct the states to permit ESRs to use distribution facilities to reach the wholesale markets begins with the text of the Federal Power Act (FPA).[14] As a creature of statute, the Commission has only that authority Congress has conferred upon it.[15] As relevant here, the FPA grants the Commission jurisdiction to regulate electricity in two areas: (i) "transmission of electric energy in interstate commerce," and (ii) "the sale of electric energy at

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[9] TAPS Request for Rehearing at 1-12.

[10] Organization of MISO States Amended Motion for Clarification at 3-6.

[11] PG&E Motion for Clarification at 1-3.

[12] Xcel Request for Rehearing at 6-16.

[13] *See, e.g.*, *FERC v. Elec. Power Supply Ass'n*, 136 S. Ct. 760, 779-80 (2016) (*EPSA*) (noting that while the Commission claimed it could negate state decisions, it chose not to do so "in recognition of the linkage between wholesale and retail markets and the States' role in overseeing retail sales. . . . Wholesale demand response as implemented in the Rule is a program of cooperative federalism in which the States retain the last word.")

[14] 16 U.S.C. § 824 (2012).

[15] *See, e.g.*, *Emera Me. v. FERC*, 854 F.3d 9, 25 (D.C. Cir. 2017).

(continued ...)

wholesale in interstate commerce." [16] But the FPA is explicit in stating that the Commission does not have jurisdiction "over *facilities* used for the generation of electric energy or over *facilities* used in local distribution or only for the transmission of electric energy in intrastate commerce . . . ."[17] These subjects are reserved to the states.

5. Order No. 841-A mandates that ESRs be permitted to use distribution facilities so that they may access the wholesale electric market.[18] There is no doubt that the participation of ESRs behind-the-meter or on the distribution lines can "affect wholesale rates," but in order to "affect" wholesale rates such ESRs must first have access to the wholesale market, and they can only do so by using distribution facilities. In my view, the FPA does not provide the Commission with the authority to require that distribution facilities permit ESRs to use those facilities to access wholesale markets.

6. As I set forth in greater detail below, the legal analysis that supports the Commission's jurisdiction to regulate wholesale rates for demand response (DR) and energy efficiency resources (ERRs) is inapposite when considering ESRs. DR and EERs involve customers (or aggregators) voluntarily agreeing to reduce their loads for a certain price, a practice which the Commission and court agree directly affects wholesale rates.[19]

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[16] 16 U.S.C. § 824(b)(1).

[17] *Id.* (emphasis added). *See Detroit Edison Co. v. FERC*, 334 F.3d 48, 54 (D.C. Cir. 2003) ("Section 201(b)(1) denies FERC jurisdiction over 'facilities used in local distribution.' FERC would rewrite the statute to exclude only 'facilities used *exclusively* in local distribution.' Such an interpretation would eviscerate state jurisdiction over numerous local facilities, in direct contravention of Congress' intent.") (citations omitted)); *but cf. Nat'l Ass'n of Regulatory Util. Comm'rs v. FERC*, 475 F.3d 1277, 1279, 1282 (D.C. Cir. 2007) (concerning the adoption of a standard interconnection agreement and which can be distinguished on a number of grounds, including that: (i) the distribution facilities were participating in a Commission-filed Open Access Transmission Tariff; and (ii) involved generators larger than 20 megawatts).

[18] Order No. 841-A prohibits states from preventing ESRs from participating in wholesale electric markets, which has the effect of directing that ESRs have access to distribution facilities. *Electric Storage Participation in Markets Operating by Regional Transmission Organizations and Independent System Operators*, Order No. 841-A, 167 FERC ¶ 61,154 at PP 38-49 (2019) (Order No. 841-A).

[19] *See EPSA*, 136 S. Ct. at 774-75 (finding that rules governing wholesale DR directly affect the wholesale rate); *Advanced Energy Economy*, 161 FERC ¶ 61,245, at P 60 (2017) (*AEE*), *reh'g denied*, 163 FERC ¶ 61,030 (2018) (finding that the Commission has jurisdiction over the participation of EERs in organized wholesale *(continued ...)*

The entity choosing to reduce load through DR or EER is acting behind-the-meter and, by its voluntary act, it literally does not "use" the distribution facilities; it is affirmatively choosing to reduce its consumption of electricity. In the case of an ESR located either behind-the-meter or on the distribution system, the only way it can sell its energy at wholesale is by using distribution facilities to deliver energy to the wholesale market.

7. In Order No. 841, the Commission concluded that because ESRs' sales and purchases can affect wholesale rates, the Commission therefore has the authority to dictate that ESRs have access to the wholesale market through distribution facilities. But such an approach borders on teleology as legal analysis. The FPA is clear: the regulation of distribution facilities is not within the jurisdiction of the Commission.[20] It is only when an ESR is provided access to the wholesale power markets through the distribution facilities that the Commission can exercise its authority; but the Commission cannot mandate that such access be provided on the local distribution facilities. That decision remains with the local distribution utilities and the states that regulate them.

8. I acknowledge that the mere fact that a distribution facility is involved is not dispositive as to whether the Commission can exercise jurisdiction. If a state permits ESRs to connect to the distribution system and sell power at wholesale, the Commission has jurisdiction to regulate those sales. But, the decision – the jurisdiction – to allow the ESRs to physically connect to the distribution system lies with the states.[21]

9. The majority relies on the Supreme Court's decision in *EPSA* to support their decision to prohibit states from preventing an ESR on a distribution system or behind-the-meter from participating in the RTO/ISO markets through the participation model. In my opinion, *EPSA* is distinguishable from the issues considered by the Commission in Order No. 841. *EPSA* involved whether the Commission had jurisdiction over DR transactions and, if it did, whether the Commission could justify, under specific circumstances, the equal compensation of DR providers and wholesale generation.[22] In Order No. 841, the Commission asserted that because ESRs can effect wholesale rates,

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markets as a practice directly affecting wholesale rates).

[20] 16 U.S.C § 824(b)(1).

[21] *See, e.g.*, NARUC Request for Rehearing at 4; APA, APPA, & NRECA Request for Rehearing at 10-11. I further consider that this limitation on the Commission's authority to order the participation of ESRs behind-the-meter or on the distribution system applies with equal force to public power and electric cooperatives that are exempt from Part II of the FPA. *See* 16 U.S.C. § 824(f).

[22] *EPSA*, 136 S. Ct. at 767, 771-72.

(continued ...)

ESRs must be allowed to connect behind-the-meter and to the distribution facilities in order to participate in the wholesale markets.[23]

10. Another important distinction between *EPSA* and the matter before us is that under Order Nos. 719 and 745, as the *EPSA* Court itself recognized, wholesale operators were required to accept "demand response bids from aggregators of electricity consumers, except when the state regulatory authority overseeing those users' retail purchases bars such demand response participation."[24] Thus, the DR program under review in *EPSA* already provided for an opt-out for the states. Said differently, the *EPSA* Court's analysis was undertaken in a factual setting in which states already had been provided with an opt-out.[25] In fact, the *EPSA* Court concluded that the opt-out feature removed "any conceivable doubt as to its compliance with [FPA section 201(b)'s] allocation of federal and state authority."[26]

11. I also note that, when the *EPSA* Court determined that the Commission's DR regulation did not improperly regulate retail electric sales, it did so by, in part, noting "whatever the effects at the retail level, every aspect of the regulatory plan happens exclusively on the wholesale market and governs exclusively that market's rules."[27] I believe that the requirement in the Storage Orders that states must permit distribution and behind-the-meter ESRs to use distribution facilities to access the wholesale markets creates a regulatory plan that fails to "happen[] exclusively" on the wholesale market and

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[23] As I noted immediately above, the fact that *EPSA* involved DR and not ESRs is a point of important distinction here. *See supra* P 6 *see also infra* PP 17-18.

[24] *EPSA*, 136 S. Ct. at 771 (citing *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, 125 FERC ¶ 61,071, at P 154 (2008) (Order No. 719); *Demand Response Compensation in Organized Wholesale Energy Markets*, Order No. 745, 134 FERC ¶ 61,187, at P 114 (2011) (Order No. 745)).

[25] In considering EPSA's arguments that the Commission had "usurped state power," *id.* at 777, the Court dismissed them noting that the "finishing blow" to those arguments was the Commission's "notable solicitude toward the States" by "allow[ing] any State regulator to prohibit its consumers from making demand response bids in the wholesale market." *Id*. at 779 (citations omitted).

[26] *Id.* at 780.

[27] *Id.* at 776. *See also supra* P 6 (discussion that DR does not "use" the distribution facilities).

(continued ...)

fails to exclusively govern the wholesale market's rules.[28] The majority's position in this regard goes beyond the position supported by *EPSA*, which involved determining "how" resources will participate in the wholesale market.[29] The issue has been expanded by the majority in this matter to include "whether" ESRs must be permitted to participate in the wholesale market by effectively mandating access to distribution facilities.[30]

12. In short, I would have granted rehearing to find that the Commission exceeded its jurisdiction by prohibiting states from determining whether ESRs could be connected to distribution facilities.[31]

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[28] *EPSA*, 136 S. Ct. at 776.

[29] This position was argued by some in their requests for rehearing or clarification of Order No. 841. *See, e.g.*, NARUC Request for Rehearing at 6.

[30] The issue of whether ESR functions as generation, and therefore is subject to state jurisdiction for construction, siting, and permitting was not addressed by the Storage Orders.

[31] Additionally, I am concerned that the Commission's denial of rehearing on these issues may be perceived as impermissible commandeering of the states to implement federal policy, which is prohibited by the Constitution. The Storage Orders do not merely pre-empt state authority, but require states to act in or to implement the Commission's direction to permit ESRs to connect to distribution facilities or face untenable impacts to retail electric service. *See infra* pt. II.A. Most local distribution systems are considered public utilities whose rates, terms and conditions are regulated by the state. This means that integration of ESRs – including safety and reliability standards as acknowledged by Order No. 841-A – will require review and action by the states before the distribution utility may implement the Commission's order. *See* Order No. 841-A, 167 FERC ¶ 61,154 at P 42 (acknowledging that states have jurisdiction over the interconnections of certain resources to the distribution system and the requirements reasonably related to those interconnections). It is also possible that a state law may need to be changed so as to permit ESRs to connect to the distribution facilities. Our structure of government under the Constitution prohibits the federal government from requiring states to enact statutes or to regulate on its behalf. *See New York v. United States*, 505 U.S. 144, 175-76 (1992); *Printz v. United States*, 521 U.S. 898, 935 (1997).

(continued ...)

II. The Commission Should Have Exercised its Discretion to Include an Opt-Out Provision for the States

13. Regardless of whether the Commission has jurisdiction over ESRs connected to distribution facilities, I would have supported the Commission exercising its discretion to provide an opt-out provision for the states.

14. The majority today also relies on the Commission's order in *AEE* to support their decision to not provide states with an opt-out in Order No. 841.[32] In *AEE*, the Commission considered a request for a declaratory ruling that, among other things, found the Commission had exclusive jurisdiction under the FPA to regulate the participation of certain EERs in wholesale electricity markets and that the states lacked the authority to bar or otherwise interfere with the participation of EERs in those markets. The Commission found that it had exclusive jurisdiction "over the participation of EERs in wholesale markets[, and] that RERRAs may not bar, restrict, or otherwise condition the participation of EERs in wholesale electricity markets unless the Commission expressly gives RERRAs such authority . . . ."[33] The Commission also found that Order No. 719 did not require that an opt-out be provided to a state related to the sale of EERs into the wholesale electricity markets.[34]

15. Importantly, however, the Commission recognized in *AEE* that we "ha[ve] discretion to decide whether to grant states an opt-out from allowing participation of EERs in wholesale electricity markets."[35] Moreover, in describing its decision in *AEE* not to provide an opt-out to the states with respect to EERs as it did with DR (as discussed in *EPSA*), the Commission also observed that "[u]nlike demand response resources, EERs are not likely to present the same operational and day-to-day planning complexity that might otherwise interfere with [a Load Serving Entity's] day-to-day operations."[36] As set forth below, the Commission's observations in *AEE* persuade me that it would have been appropriate to provide an opt-out to the states in the Storage Orders.

16. Therefore, while the Commission's exercise of jurisdiction in this matter was inappropriate in my view, even if the Commission had jurisdiction over the participation

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[32] Order No. 841-A, 167 FERC ¶ 61,154 at PP 37, 50.

[33] *AEE*, 161 FERC ¶ 61,245 at P 57.

[34] *Id*.

[35] *Id*. P 62.

[36] *Id*. P 63.

in the wholesale markets of ESRs connected to the distribution system or behind-the-meter, the Commission could have achieved a more just result by exercising its discretion to offer the states an opt-out provision. As I noted above, among those requesting rehearing in response to the Commission's failure to include an opt-out in the Storage Orders was NARUC, which represents the views of the state utility commissions. In addition, EEI, APPA, AMP, and NRECA similarly challenged the Commission's failure in Order No. 841 to include an opt-out. The memberships of these entities combined represent the vast majority of load serving entities in the United States. It is important to take their concerns seriously and to address them.

A. An Opt-Out Provision Would Reduce the ESR-Related Burden on States and Local Utilities

17. The Storage Orders will likely result in day-to-day operational impacts on the distribution system greater than those presented by EERs or DR, but without providing states an opportunity to avoid these impacts by allowing them to opt-out. In my view, there are fundamental differences between DR and EERs, on the one hand, and ESRs on the other. As noted above, DRs and EERs reflect a customer's decision voluntarily not to consume electric energy, whereas ESRs reflect an injection (generation) or consumption (load) of energy from behind-the-meter and onto distribution facilities. An ESR's activity quite literally pushes or pulls energy across the distribution facilities and thereby has a very real physical impact on the distribution system. The physical nature of an ESR's activities may impact the operations of distribution-level facilities as well as their safety and reliability in a manner that DR's and EERs' voluntary decision not to consume electricity does not. As noted in comments filed in this record, voluntary customer reductions in load have a very different impact on the distribution system from the "bidirectional trafficking of energy across the distribution grid" of ESRs.[37] The real physical and operational impacts ESRs have on the distribution system in my estimation weigh in favor of the Commission exercising its discretion to provide an opt-out to the states in this matter.

18. I am concerned that the Storage Orders potentially will create complications for, and impact the day-to-day operations and management of, the distribution system – as well as its safety and reliability – in a manner that is in fact *greater* than the impact of demand response resources because ESRs actually inject energy into the system. One commenter in its request for rehearing recognized that states "should be entitled to *more* deference with respect to electric storage resources that inject power into the distribution system and can dramatically re-shape load curves, thereby creating more significant operational, safety, and reliability concerns for retail customer interconnections and

[37] *See* Xcel, Comments, Docket Nos. RM16-23-000 and AD16-20-000, at 8 (filed Feb. 13, 2018).

(continued ...)

distribution systems."[38] Similarly, another set of commenters argued, "[b]ecause ESRs can inject energy into the grid, unlike demand response, there is arguably an even greater need for preservation of the states' authority over rules for participation in order to 'maintain the safety and the reliability of the distribution system or their use of [ESRs] on their systems.'"[39] These comments identify material operational concerns as well as hardships in guaranteeing the safety and reliability of the distribution system that under observations made in *AEE* weigh in favor of exercising the Commission's discretion for providing an opt-out provision in the Storage Orders.

19. We must also consider that the operational, safety and reliability concerns highlighted by commenters may increase costs to the states or distribution utilities and, ultimately, to consumers. Order No. 841 holds that "state responsibilities include, among other things, retail services and matters related to the distribution system, including design, operations, power quality, reliability, and system costs."[40] However, the majority in Order No. 841-A dismisses the issue of increased cost on the distribution system as "outside the scope of this proceeding" and argues that "we are not changing the responsibilities of the distribution utilities."[41] I disagree. Based on the record, it is clear that many parties feel strongly that the Storage Orders do in fact increase their responsibilities, and if the majority does not want to address these issues in this proceeding, then they should at least provide an option for states to avoid these costs by opting out.

20. As one party noted in its request for rehearing, the Storage Orders "impose significant new costs on distribution companies and raise questions about cost recovery from retail customers in retail rates to accommodate the wholesale market participation of electric storage resources[,]"[42] and "distribution utilities will be required to allow storage resources to use their wires to transmit energy to and from the electric transmission grid, imposing new stresses on the distribution system and imposing added costs on the distribution utilities."[43] Yet, instead of confronting issues involving new stressors to

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[38] TAPS Request for Rehearing at 4 (emphasis in original).

[39] APA, APPA, & NRECA Request for Rehearing at 15 (quoting Order No. 841, 162 FERC ¶ 61,127 at P 36).

[40] Order No. 841, 162 FERC ¶ 61,127 at P 36.

[41] Order No. 841-A, 167 FERC ¶ 61,154 at P 156.

[42] Xcel Request for Rehearing at 9.

[43] *Id.*

(continued ...)

distribution systems arising from ESRs – including injections of energy at the distribution level – the majority merely repeats the fact that distribution companies and states will still regulate safety and reliability.[44] But the majority misses the point, as those safety and reliability regulations can be challenging and expensive tasks. For example, in discussing the 100 kW minimum size threshold for participation, EEI expressed concerns with the potential impacts of an influx of ESRs:

> There is concern that the number of ESRs that could potentially seek to participate in the wholesale market at the proposed threshold could become so voluminous that they: 1) exceed the ability of RTOs/ISOs to manage this volume of resources, 2) exceed the ability of [distribution utilities] to address various reliability, operational and interconnection mat[t]ers given that smaller resources are far more likely to interconnect to distribution, and 3) impose implementation costs significantly greater than corresponding benefits, particularly in regions where resources of the 100 kW size have other "compensation" options such as net energy metering.[45]

21. The majority also should not dismiss concerns over equity or cost allocation. When a distribution utility is concerned that it "will need to harden the underlying distribution system to support bidirectional power flows and pay for substantial metering upgrades"[46] to accommodate ESRs, and that the associated costs "could be trapped at the distribution level and allocated to end-users rather than wholesale market participants[,]"[47] in my view the Commission should not flatly disclaim involvement. The majority is willing to assert jurisdiction over the distribution system through the participation model, but they are unwilling to confront or take responsibility for the practical ramifications of their decisions.

22. Given the complexities and uncertainties mentioned above, the Commission should have included an opt-out provision. Further, the fact that ESR-related costs may not yet be well-known and may come in different forms (e.g., potential upgrades to

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[44] Order No. 841, 162 FERC ¶ 61,127 at P 36; Order 841-A, 167 FERC ¶ 61,154 at P 46. As noted *supra* in footnote 31, the imposition of this burden by the Commission raises potential questions of unconstitutional commandeering of the states.

[45] EEI Request for Rehearing at 9.

[46] Xcel Request for Rehearing at 23.

[47] *Id.* at 24.

components of the distribution system, increased administrative effort and time on the part of distribution utilities and states, etc.) supports the argument for an opt-out provision. It is these potential problems that provide the Commission with the reason to exercise its discretion to provide the states an opt-out provision with respect to ESRs.

B. An Opt-Out Provision Would Improve Transparency and Allow Non-Participating States to Experiment and Innovate

23. Further, Order No. 841 has the potential to stymie innovation in ESRs behind-the-meter or connected at the distribution level. NARUC filed comments stating that "[u]tility-scale energy storage is now shifting from a few experimental programs to prominent State-prompted deployments such as those in California, with more and more States looking expand the use of energy storage resources"[48] and urging the Commission to "avoid inhibiting State efforts to build on these successful installations and encourage system operators to include storage in their integrated planning."[49] As with other policy approaches under a system of cooperative federalism, in my view it is important for the Commission to acknowledge that we do not have all the answers, and states play a vital role as policy laboratories when it comes to broad initiatives that have significant state-by-state details to be ironed out. Further, in general, I believe it is unwise for a federal administrative agency to implement a top-down policy when the needs of a state or distribution utility call for a tailored approach.

24. Finally, one of the important obligations of our government is to provide and encourage transparency to citizens as to who in government is responsible to the people. In the complex and overlapping jurisdictions of electricity, a retail customer with a complaint or question about his or her bill or service may find it difficult to know whom to contact about that service. When service involves the distribution system, it is natural for a customer to call the local utility or the state public utility commission. The Commission should be cognizant that, by denying states an opt-out provision with respect to the Storage Orders, the majority is not only placing a burden on the distribution utility or the state to address any impacts of ESRs on the distribution system, they are in effect asking the distribution utility or state to take ownership of and accountability for that burden.

III. Conclusion

25. I firmly believe that, within the correct regulatory and policy framework, ESRs have the potential to transform the electricity industry by unlocking significant economic and market efficiency benefits. And I firmly support the efforts of the Storage Orders to

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[48] NARUC Request for Rehearing at 8.

[49] *Id.*

promote the participation of ESRs in the wholesale markets. However, as I stated above, I read our jurisdictional authority differently than the majority, and I would have granted rehearing of Order No. 841 on the issues of jurisdiction and exercising the Commission's discretion to include an opt-out provision for states related to ESRs located behind-the-meter or connected to distribution facilities.

For these reasons, I respectfully concur in part and dissent in part.

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Bernard L. McNamee
Commissioner