

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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

Docket Nos. RM16-23-000
AD16-20-000

**REQUEST FOR REHEARING OF THE
TRANSMISSION ACCESS POLICY STUDY GROUP**

Pursuant to Section 313 of the Federal Power Act (“FPA”), 16 U.S.C. § 825*l*, and Rule 713 of the Commission’s Rules of Practice and Procedure, 18 C.F.R. § 385.713, the Transmission Access Policy Study Group (“TAPS”) seeks rehearing of Order No. 841, the Commission’s February 15, 2018 Final Rule on Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators (“RTOs”).¹ We share the Commission’s desire to encourage participation of storage in RTO markets and appreciate the Final Rule’s various acknowledgments of the need to respect and work with state and local regulatory bodies and distribution utilities regarding distribution-connected and behind-the-retail-meter storage resources.

However, we seek rehearing to ensure that this objective is accomplished in a more consistent, coherent, effective, and legally sound manner.

SPECIFICATION OF ERRORS

1. The Storage Rule erred by rejecting a Relevant Electric Retail Regulatory Authority (“RERRA”) opt in/opt-out patterned on Order No. 719-A for storage resources connected to distribution facilities or behind the retail meter.

¹ *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841, 83 Fed. Reg. 9580 (Mar. 6, 2018), 162 FERC ¶ 61,127 (2018) (“Storage Rule”).

2. The Storage Rule erred by rejecting TAPS' recommendation that, in addition to requiring adequate metering, the Commission require distributed storage resources to make a binding choice to participate exclusively either in the wholesale markets, or at retail.

STATEMENT OF ISSUES

1. Did the Storage Rule err by rejecting an RERRA opt in/opt-out patterned on Order No. 719-A for storage resources connected to distribution facilities or behind the retail meter? FPA § 201(b)(1), 16 U.S.C. § 824(b)(1); *FERC v. Elec. Power Supply Ass'n*, 136 S.Ct. 760 (2016); *New York v. FERC*, 535 U.S. 1 (2002); *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190 (1983); *Calpine Corp. v. FERC*, 702 F.3d 41 (D.C. Cir. 2012); *S. Cal. Edison v. FERC*, 603 F.3d 996 (D.C. Cir. 2010); *DTE Energy Co. v. FERC*, 394 F.3d 954 (D.C. Cir. 2005); *Detroit Edison Co. v. FERC*, 334 F.3d 48 (D.C. Cir. 2003); *Cal. Indep. System Operator Corp.*, 155 FERC ¶ 61,229 (2016); *Sun Edison LLC*, 129 FERC ¶ 61,146, P 19 (2009), *on reh'g*, 131 FERC ¶ 61,213 (2010); *MidAmerican Energy Co.*, 94 FERC ¶ 61,340 (2001); *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719-A, 74 Fed. Reg. 37,776 (July 29, 2009), *on reh'g*, Order No. 719-B, 129 FERC ¶ 61,252 (2009); *Standardization of Small Generator Interconnection Agreements and Procedures*, Order No. 2006, 70 Fed. Reg. 34,100 (June 13, 2005) (subsequent history omitted); *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 68 Fed. Reg. 49,846 (Aug. 19, 2003) (subsequent history omitted); *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, 61 Fed. Reg. 21,539 (May 10, 1996) (subsequent history omitted); *Order Instituting Rulemaking to Consider Policy & Implementation Refinements to the Energy Storage Procurement Framework & Design Program (D.13-10-040, D.14-10-045) & Related Action Plan of the California Energy Storage Roadmap*, Decision 17-04-039, Rulemaking 15-03-011, 2017 Cal. PUC LEXIS 197 (Cal. Pub. Utils. Comm'n Apr. 27, 2017); *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 81 Fed. Reg. 86,522 (proposed Nov. 30, 2016).
2. Did the Storage Rule err by rejecting TAPS' recommendation that, in addition to requiring adequate metering, the Commission require distributed storage resources to make a binding choice to participate exclusively either in the wholesale markets, or at retail? FPA § 201(b)(1), 16 U.S.C. § 824(b)(1); *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 81 Fed. Reg. 86,522 (proposed Nov. 30, 2016).

ARGUMENT

I. THE STORAGE RULE ERRS BY REJECTING AN RERRA OPT-IN/OPT-OUT FOR STORAGE RESOURCES CONNECTED TO DISTRIBUTION FACILITIES OR BEHIND THE RETAIL METER

TAPS appreciates various rulings in the Storage Rule that show respect for, and recognize the need to work with, state and local regulators regarding storage connected to distribution facilities and behind the retail meter. However, we seek rehearing because the Commission failed to acknowledge—much less provide a reasoned basis for rejecting—recommendations by TAPS and other commenters that the Commission provide for an RERRA opt-in/opt-out for such resources, patterned on Order No. 719-A’s treatment of Demand Response Resources.² The Commission specifically mentioned Order No. 719’s opt-in/opt-out in the NOPR³ (P 157 & n.238), noting that aggregators of Distributed Energy Resources (“DERs”)—a category defined to include storage resources not directly connected to the transmission grid—would be required to attest that they comply with “the tariffs and operating procedures of the distribution utilities and the rules and regulations of any other relevant regulatory authority.”

The Storage Rule, however, does not acknowledge this proposed requirement, nor explain why it departs from the RERRA opt-in/opt-out approach, which *FERC v. EPSA* recognized as a hallmark of “cooperative federalism.”⁴ This inconsistency is especially

² *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719-A, 74 Fed. Reg. 37,776 (July 29, 2009), FERC Stats. & Regs. ¶ 31,292 (2009), on reh’g, Order No. 719-B, 129 FERC ¶ 61,252 (2009).

³ *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 81 Fed. Reg. 86,522 (proposed Nov. 30, 2016), FERC Stats. & Regs. ¶ 32,718, P 157 & n.238 (2016) (“NOPR”).

⁴ *FERC v. Elec. Power Supply Ass’n*, 136 S.Ct. 760, 779-80 (2016) (“*FERC v. EPSA*”).

confusing since the Storage Rule expressly allows storage resources to choose to participate in wholesale markets as demand response in some circumstances—in which case the storage resource *would* be subject to the opt-in/opt-out established by Order No. 719-A.⁵ The storage facility owner’s frame of mind, or choice as to the theoretical construct it is using to participate in RTO markets, should not strip RERRAs of authority that the Commission has previously recognized, with Supreme Court approval. If anything, RERRAs 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 distribution systems. Indeed, the need for deference is especially high for behind-the-retail-meter storage resources that may involve retail customers using their retail interconnections to make purchases and sales with RTOs.

A. The Commission’s Rejection of an RERRA Opt-In/Opt-Out Patterned on Order No. 719-A Is Inconsistent with Other Provisions of the Storage Rule and Precedent

We applaud the Commission’s effort to assure that RTO wholesale markets are prepared to accommodate storage resources and other emerging technologies. Some states have already chosen to take advantage of RTO market structures to facilitate integration of distributed storage resources, and to give RTOs access to storage that may eventually help them manage increasing amounts of non-dispatchable renewable energy.⁶

⁵ Storage Rule, PP 32, 55-56.

⁶ See, e.g., *Order Instituting Rulemaking to Consider Policy & Implementation Refinements to the Energy Storage Procurement Framework & Design Program (D.13-10-040, D.14-10-045) & Related Action Plan of the California Energy Storage Roadmap*, Decision 17-04-039, Rulemaking 15-03-011, 2017 Cal. PUC LEXIS 197 (Cal. Pub. Utils. Comm’n Apr. 27, 2017),

To the extent that RERRAs choose to do so, TAPS agrees that it is important for RTOs to eliminate unnecessary barriers to the participation of such resources.

That choice, however, is the RERRA's to make; and the Storage Rule should have recognized that and provided a straightforward mechanism to enable RERRAs and RTOs to implement systematically RERRA choices regarding participation of distribution-connected and behind-the-retail-meter storage in RTO markets. The Storage Rule's failure to adopt an RERRA opt-in/opt-out mechanism patterned on Order No. 719-A—or to provide an equally straightforward alternative mechanism for appropriately recognizing state authority and facilitating coordination—is error because it is inconsistent with other correct holdings in the Storage Rule; fails to recognize limits on the Commission's jurisdiction; and will lead to confusion.

The Storage Rule, and Commission and court precedent, make clear that RERRAs and distribution utilities have the authority to limit the ability of storage resources to access the wholesale market. The Storage Rule, for example, rightly provides that the distribution utility (and implicitly its RERRA) can restrict wholesale sales, based on the distribution utility's interconnection agreements with electric storage resources interconnected to the distribution system or behind the retail meter. The Storage Rule states that it applies only to storage resources that are “contractually permitted” to “inject[] electric energy back to the grid,” “e.g., per the interconnection agreement between an electric storage resource that is interconnected on a distribution system or

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M185/K070/185070054.PDF>; California Independent Systems Operator, Inc., California Public Utilities Commission, California Energy Commission, *Advancing and Maximizing the Value of Energy Storage Technology: A California Roadmap* (Dec. 2014), https://www.aiso.com/Documents/Advancing-MaximizingValueofEnergyStorageTechnology_CaliforniaRoadmap.pdf. See also *Cal. Indep. System Operator Corp.*, 155 FERC ¶ 61,229 (2016).

behind-the-meter with the distribution utility to which it is interconnected.”⁷ Since, as the Commission has acknowledged, the vast majority of distribution-level interconnections are subject to the jurisdiction of the RERRA, not the Commission,⁸ this provision of the Storage Rule gives RERRAs an effective veto over wholesale sales by distribution-connected and behind-the-retail-meter storage resources.⁹

⁷ Storage Rule, PP 29, 33.

⁸ In Order No. 2006-A, P 105, for example, the Commission stated (emphasis added):

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.*

Standardization of Small Generator Interconnection Agreements and Procedures, Order No. 2006, 70 Fed. Reg. 34,100 (June 13, 2005), FERC Stats. & Regs. ¶ 31,180 (2005), *order on reh’g*, Order No. 2006-A, 70 Fed. Reg. 71,760 at 71,771 (Nov. 30, 2005), FERC Stats. & Regs. ¶ 31,196, P 105 (2005), *clarified*, Order No. 2006-B, 71 Fed. Reg. 42,587 (July 27, 2006), FERC Stats. & Regs. ¶ 31,221 (2006), *corrected*, 71 Fed. Reg. 53,965 (Sept. 13, 2006).

Moreover, while the Commission has previously 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 OATT, facilities behind the retail meter are plainly beyond the scope of facilities “included in a public utility’s Commission-filed OATT.”

Standardization of Generator Interconnection Agreements and Procedures, Order No. 2003, 68 Fed. Reg. 49,846 (Aug. 19, 2003), FERC Stats. & Regs. ¶ 31,146 (2003), *modified*, 68 Fed. Reg. 69,599 (Dec. 15, 2003), *clarified*, 69 Fed. Reg. 2135 (Jan. 14, 2004), 106 FERC ¶ 61,009 (2004), *order on reh’g*, Order No. 2003-A, PP 710, 730, 69 Fed. Reg. 15,932 at 15,994, 15,996 (Mar. 26, 2004), FERC Stats. & Regs. ¶ 31,160 (2004), *order on reh’g*, Order No. 2003-B, 70 Fed. Reg. 265 (Jan. 4, 2005), FERC Stats. & Regs. ¶ 31,171(2004), *order on reh’g*, Order No. 2003-C, 70 Fed. Reg. 37,661 (June 30, 2005), FERC Stats. & Regs. ¶ 31,190 (2005), *aff’d sub nom. NARUC v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007). *See also* Order No. 2006, P 481.

⁹ The Commission’s net metering precedent—which was not overruled by the Storage Rule (indeed, it is cited by the Storage Rule (P 30 n.49))—also allows the RERRA to set the netting interval to determine whether there is a net sale of electricity from a distributed resource that would then be subject to Commission jurisdiction as a wholesale transaction. *MidAmerican Energy Co.*, 94 FERC ¶ 61,340, 62,263 (2001); Order No. 2003-A, P 747; *Sun Edison LLC*, 129 FERC ¶ 61,146, P 19 (2009), *on reh’g*, 131 FERC ¶ 61,213 (2010). By their nature, electric storage resources that rely on energy purchases to charge always purchase more energy than they sell. Therefore, if the RERRA sets a netting interval for such a storage resource that is longer than its charge/discharge cycle, there would appear to be no net sale of electricity from that resource under the *MidAmerican* standard.

The Storage Rule likewise correctly provides that a distribution utility (and implicitly its RERRA) can restrict purchases of wholesale energy by electric storage facilities. Paragraph 326 provides that

[t]o 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[] 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.

Together, Paragraphs 33 and 326 establish that storage resources connected to distribution facilities or behind the retail meter can neither sell nor purchase from RTO wholesale markets unless the distribution utility and RERRA consent.

These elements of the Storage Rule are consistent with longstanding precedent. The courts have consistently ruled that the states—not the Commission—have exclusive jurisdiction to set the terms and conditions of retail service.¹⁰ RERRAs can use this authority to condition receipt of retail service on the customer’s agreement on whether

¹⁰ *FERC v. EPSA* at 775 (“specif[ying] terms of sale at retail . . . is a job for the States alone”); *see also S. Cal. Edison v. FERC*, 603 F.3d 996, 1002 (D.C. Cir. 2010) (rejecting the Commission’s assertion of jurisdiction to set the netting interval applicable to determining whether retail station service had been taken by a generator); *Calpine Corp. v. FERC*, 702 F.3d 41, 50 (D.C. Cir. 2012) (holding that the Commission cannot set the netting period for the purpose of determining whether a retail sale has occurred, leaving that determination to state regulators). *See also 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, 61 Fed. Reg. 21,539 at 21,626 (May 10, 1996), FERC Stats. & Regs. ¶ 31,036 at 31,782 (1996), *clarified*, 76 FERC ¶ 61,009 (1996), *modified*, Order No. 888-A, 62 Fed. Reg. 12,274 (Mar. 14, 1997), FERC Stats. & Regs. ¶ 31,048 (1997), *order on reh’g*, Order No. 888-B, 62 Fed. Reg. 64,688 (Dec. 9, 1997), 81 FERC ¶ 61,248 (1997), *order on reh’g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff’d in part and remanded in part sub nom. Transmission Access Policy Study Grp. v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff’d sub nom. New York v. FERC*, 535 U.S. 1 (2002) (holding that “states have authority over the *service* of delivering electric energy to end users,” recognizing that RERRAs and state legislatures “have traditionally developed social and environmental programs suited to the circumstances of their states,” and recognizing that states regulate “most power production and virtually all distribution and consumption of electric energy.”).

and how to interconnect behind-the-meter resources, and what that customer may do with any such resources.¹¹

States, moreover, retain jurisdiction over the siting and installation of energy storage facilities—regardless of how they are interconnected.¹² And in prior rulemakings, the Commission has held that even when a wholesale transaction is occurring over a “dual use” facility—i.e., a facility used both for a sale subject to the Commission’s jurisdiction and for sales subject to state jurisdiction—thus providing the Commission with certain authority, the Commission “may *not* regulate the ‘local distribution’ facility itself, which remains state-jurisdictional.”¹³ Consistent with these principles, the Storage Rule (P 36) expressly provides that states retain their responsibilities for, among other things, “matters related to the distribution system,

¹¹ Existing judicial precedent also makes clear that FERC does not have authority to authorize retail customers to purchase energy from entities other than their distribution utility; that is up to the state/RERRA and retail utility. As recognized in Order No. 888 and its related appeals, for example, 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. *New York v. FERC*, 535 U.S. 1, 12 n.9, 13 (2002) (quoting Order No. 888 at 31,782-83). The Supreme Court expressly recognized “FERC’s jurisdiction over the sale of power has been specifically confined to wholesale sales” (*id.* at 20), and acknowledged Order No. 888’s recognition that “the FPA does not give the Commission jurisdiction over sales of electric energy at retail” (*id.* at 23 (quoting Order No. 888 at 31,969)).

¹² 16 U.S.C. § 824(b)(1) (“The Commission . . . shall not have jurisdiction, except as specifically provided in this subchapter and subchapter III of this chapter, over facilities used for the generation of electricity”); *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm’n*, 461 U.S. 190, 205 (1983) (“[n]eed for new power facilities” among the areas “characteristically governed by the [s]tates”); *New York v. FERC*, 535 U.S. at 24:

FERC has recognized that the States retain significant control over local matters even when retail transmissions are unbundled. *See, e. g.*, Order No. 888, at 31,782, n. 543 (“Among other things, Congress left to the States authority to regulate generation and transmission siting”); *id.*, at 31,782, n.544 (“This Final Rule will not affect or encroach upon state authority in such traditional areas as the authority over local service issues, including reliability of local service; administration of integrated resource planning and utility buy-side and demand-side decisions, including DSM [demand-side management]; authority over utility generation and resource portfolios; and authority to impose nonbypassable distribution or retail stranded cost charges”).

¹³ Order No. 2003-C, P 53 (emphasis added). *See also* Order No. 2003, P 804 n.129; *Detroit Edison Co. v. FERC*, 334 F.3d 48, 51 (D.C. Cir. 2003); *DTE Energy Co. v. FERC*, 394 F.3d 954, 962 (D.C. Cir. 2005).

including design, operations, power quality, reliability, and system costs.” Nor does the Storage Rule “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.” *Id.*

Far from overriding state laws, the Storage Rule makes clear that distribution utilities and RERRAs retain substantial authority regarding whether distribution-connected and behind-the-retail-meter storage resources may participate in RTO wholesale markets. Nevertheless, it rejects the RERRA opt-in/opt-out recommended by TAPS and others (P 35):

[W]e are not persuaded to grant the MISO Transmission Owners’ and DTE Electric/Consumers Energy’s 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.

This decision cannot be squared with either the conclusions reached in other parts of the Rule, or long-established precedent that makes clear the Commission’s jurisdiction beyond the interstate transmission grid is limited and nuanced.

The Storage Rule errs by failing to explain or resolve this inconsistency; and by failing to create an orderly system that properly defers to the RERRA’s authority over distribution systems and retail-customer interconnections, it fosters confusion that will undermine investment and create market uncertainty.

B. An RERRA Opt-In/Opt-Out or an Equally Straightforward and Deferential Mechanism Are Needed to Support the Investment and Planning Required to Transform Distribution Systems

The electric industry is undergoing dramatic changes and needs clear rules that will support investment—not inconsistent directives and *ad hoc* and subjective implementation. The electrification of automobiles and installation of DERs are major emerging challenges facing distribution utilities and RERRAs. To integrate these new technologies, existing distribution systems that were designed to handle one-way flows must be transformed so that they can provide safe and reliable bi-directional flow, as well as handle significantly increased loads for vehicle charging. The costs and logistical challenges of making these changes will be enormous; and RERRAs will be faced with the responsibility for allocating available distribution capacity, as well as the costs of distribution facility upgrades—all while assuring that the distribution utilities they regulate retain the ability to promptly interconnect new retail customers within a matter of days, not the months or years typical for wholesale interconnections.

As a legal and a policy matter, the Commission must work with the states. And while the Storage Rule (P 36) correctly emphasized “the ongoing, vital role of the states with respect to the development and operation of electric storage resources,” it erred by failing to provide a concrete mechanism to ensure efficient coordination. Rather than leaving RERRA policies to be implemented through *ad hoc* decisions or inaction on a case-by-case basis for individual storage resources at each interconnection point, the Storage Rule should have provided a straightforward mechanism to enable RTOs to implement RERRA decisions about distribution-connected and behind-the-retail-meter storage resources in a systematic and orderly way.

An RERRA opt-in/opt-out patterned on the system mandated by Order No. 719-A for Demand Response Resources would fit the bill.¹⁴ It has a proven record and can be implemented easily by RTOs, which already use the mechanism for Demand Response Resources. The system would enable RTOs to provide a swift, one-stop eligibility answer for owners of storage resources as well as potential aggregators that may be interested in participating in wholesale markets, while respecting RERRA jurisdiction over distribution systems. And it could help avoid the need to consider disruptive market re-runs that may otherwise be appropriate (or alternative enforcement mechanisms), if an RTO has accepted supply offers or demand bids from distribution-connected or behind-the-retail-meter storage resources that are barred from making such sales or purchases under state law. Order No. 719-A's RERRA opt-in/opt-out also appropriately avoided putting RTOs in the position of directly enforcing RERRA laws by limiting RTO obligations to the terms and conditions of their tariffs and clarifying (P 54) that:

Nothing in the Final Rule authorizes a retail customer to violate existing state laws or regulations or contract rights. In that regard, we leave it to the appropriate state or local authorities to set and enforce their own requirements.

Although TAPS believes the RERRA opt-in/opt-out is the best and easiest mechanism to coordinate participation of storage resources in RTO wholesale markets, there may well be other solutions that satisfy these criteria. If the Commission decides not to require an RERRA opt-in/opt-out patterned on Order No. 719-A, it should mandate some equally straightforward and deferential mechanism for RERRAs to make their

¹⁴ Order No. 719-A required RTOs to accept bids from Demand Response Resources located in large utilities unless the RERRA expressly opts out, and (in recognition of the burden on small utilities) to reject bids from Demand Response Resources located in small utilities unless the RERRA expressly opts in. Order No. 719-A, P 51.

requirements known and to assure that RTOs are not accepting illegal bids or relying on the dispatch of resources that are barred by state law from responding to the RTOs' dispatch instructions.

II. THE COMMISSION ERRED IN REJECTING TAPS' PROPOSAL TO REQUIRE DISTRIBUTED STORAGE RESOURCES TO CHOOSE TO PARTICIPATE EXCLUSIVELY EITHER IN WHOLESALE MARKETS OR AT RETAIL

In the Storage Rule (P 5), the Commission properly recognized that it had inadequate information to address DER aggregations, which include aggregations of distributed storage resources. The Commission nevertheless rejects TAPS' proposal that—in order to avoid market manipulation, prohibited re-sales of energy purchased at retail, and prohibited end-use consumption of energy purchased at wholesale—distributed storage resources be required to make a binding choice to participate exclusively either in the wholesale markets, or at retail.

The Commission should rehear that decision. The Storage Rule identifies no other mechanism that can avoid the significant problems identified by TAPS in its NOPR comments; indeed the Commission appears to have deferred all consideration of such mechanisms to its new rulemaking proceeding, *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Docket No. RM18-9-000. The Commission should have adopted TAPS' proposal or deferred its consideration to the technical conference. At minimum, the Commission should have required that distributed storage resources make a binding choice to participate exclusively either in the wholesale markets, or at retail, unless and until the relevant RTO demonstrates that it has developed alternative requirements and protocols that enable simultaneous participation in both wholesale

markets and at retail, while fully addressing the market manipulation and other concerns identified by TAPS.

A. TAPS Identified Serious Problems with Allowing Distributed Storage Resources to Simultaneously Offer Services in Both Wholesale Markets and at Retail

TAPS' NOPR comments identified real problems with allowing electricity storage resources to simultaneously offer services in both the wholesale markets and at retail, given limitations on the Commission's jurisdiction and the need to avoid market manipulation. Because purchased energy is converted for storage rather than instantaneously transferred or consumed, its ultimate use cannot be verified at the time of the original energy purchase. As a result, distribution-connected and behind-the-retail-meter storage resources pose significant challenges, and additional conditions must be placed on their operation to respect jurisdictional limits.

First, as the NOPR correctly recognized (P 100), all energy purchased from RTO markets at the locational marginal price by distributed storage must be resold, rather than consumed by the purchaser. This point is fundamental because FPA section 201(b)(1), 16 U.S.C. § 824(b)(1), limits the Commission's jurisdiction to sales of electricity at wholesale in interstate commerce; the Commission cannot authorize—let alone require—RTOs to allow sales of energy from organized wholesale markets to end-use customers. Thus, to ensure that wholesale market participation by distributed storage does not become a vehicle to improperly evade the distribution utility's retail service, the Commission must assure that any energy purchased by such storage resources from RTO markets is subsequently resold. This is a particularly significant issue for behind-the-

retail-meter distributed storage, but also could be an issue for separately metered distributed storage if it is used to serve the storage owner's end-use load.

Second, the Commission must also ensure that electricity is not purchased at retail by distributed storage and then resold in the RTOs' organized wholesale markets. Very few retail jurisdictions have implemented time-of-use rates for retail customers. Instead, retail rates generally are an average of lower off-peak rates and higher on-peak rates. Thus, when wholesale market prices are high, there is an obvious financial incentive to buy from a retail provider at the average price while selling into the wholesale market at the peak price. Indeed, if the owner of a distributed storage resource could simultaneously purchase energy at retail and sell energy to the wholesale market in such conditions, it could reap enormous financial returns and shift costs to other retail customers—all without ever changing the physical state of charge of its storage resource.

Normal revenue-quality metering is inadequate to address these concerns, because in addition to accurately metering purchases and sales, two separate energy level balances—one for wholesale and one for retail—would have to be maintained for each distributed storage resource. Charging from retail or wholesale purchases must be attributed only to the corresponding energy balance. In each interval, discharge from the retail balance must be limited to the resource owner's end-use consumption in that interval (or perhaps sales to the distribution utility); and discharge from the wholesale balance must be reconciled with actual sales to the RTO. Situational awareness would require that the RTO know the wholesale share of the energy level balance for each distributed storage resource participating in both retail and wholesale markets, not just its total energy balance. Maintaining and auditing such a system would be enormously

complicated and expensive; if the storage resource is co-located with a behind-the-meter distributed generation resource, the challenges are even greater. Because no other solution seemed feasible, TAPS recommended that, in addition to requiring adequate metering, distributed storage resources be required to make a binding choice to participate exclusively either in the wholesale markets, or at retail.

B. The Commission Erred in Rejecting TAPS' Wholesale/Retail Separation Proposal

The Commission rejected TAPS' proposal; but its justification—that “[i]t 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”—does not address, let alone demonstrate, how the problems identified by TAPS will be avoided.¹⁵ Moreover, while the Storage Rule asserts that “CAISO provides two examples of how it has achieved market rules that accurately account for wholesale and retail activities by using direct metering,”¹⁶ the examples presented in CAISO's comments in this proceeding¹⁷ do not solve or even address the problems TAPS raised. Indeed, CAISO acknowledges that it is still “explor[ing] multiple use cases in which a behind the meter resource participates as both a wholesale and retail resource,” and that “there will be a need for companion rules to account for whether a resource is engaged in a wholesale or retail activity.”¹⁸

¹⁵ Storage Rule, P 320.

¹⁶ Storage Rule, P 318.

¹⁷ Comments of the California Independent System Operator Corp. at 20-21 (Feb. 13, 2017), eLibrary No. 20170213-5278.

¹⁸ *Id.* at 21.

It was an error for the Commission to reject TAPS' wholesale/retail separation solution without requiring an equally effective mechanism to address the fundamental problems raised by TAPS. Especially given the Storage Rule's determination (P 5) that the Commission does not currently have enough facts to issue a rulemaking to address DER aggregations, that decision was premature.

DER aggregations that will be the subject of the new rulemaking and technical conference include storage connected at the distribution level and behind the retail meter. In addition, as proposed in the NOPR, a DER aggregation can be an individual storage resource participating through the storage participation model adopted in the Storage Rule. The NOPR would have required each RTO to revise its tariff:

to allow distributed energy resource aggregators,¹³ *including electric storage resources*, to participate directly in the organized wholesale electric markets. Specifically, we propose to require each RTO/ISO to establish distributed energy resource aggregators as a type of market participant and allow the distributed energy resource aggregators to register distributed energy resource aggregations *under the participation model in the RTO/ISO tariff that best accommodates the physical and operational characteristics of the distributed energy resource aggregation.*

¹³ We define distributed energy resource aggregator as an entity that *aggregates one or more distributed energy resources* for purposes of participation in the organized wholesale capacity, energy, and ancillary service markets of the RTOs and ISOs.

NOPR, P 5 (emphasis added); *see also id.* P 137 (a single distribution-connected storage resource could participate in wholesale markets “by serving as its own distributed energy resource aggregator”).

The issues raised by TAPS fall well within the scope of the deferred DER issues. And the technical complexity of unpacking distributed storage resource operations into parallel wholesale and retail ledgers, so that such resources can participate in both wholesale markets and at retail in a manner that respects jurisdictional limits and avoids manipulation, illustrates why the Commission was right to conclude that it did not have sufficient information to act on such issues at this time.

There is no record evidence in this proceeding that the real problems identified by TAPS can be addressed in a less intrusive manner than TAPS proposed. Thus, even if the Commission nevertheless believes that a superior alternative solution might be possible, it should have deferred ruling on TAPS' wholesale/retail separation solution and used the planned technical conference in Docket No. RM18-9-000 to develop a factual record and explore any such alternatives. Failing to do so was inconsistent with the basis for its decision to defer DER-aggregation issues to a new docket, and necessarily leaves the scope of the issues deferred to that new docket confused.

But in any event, the Commission cannot simply ignore: the opportunities for unlawful usage and market manipulation created by allowing distributed storage resources to participate simultaneously in both wholesale markets and at retail; the FPA limits on the Commission's jurisdiction; and state law restrictions on the re-sale of electricity purchased at retail. At minimum, the Commission should impose TAPS' proposed wholesale/retail separation requirement for such distributed storage resources, particularly those located behind the retail meter, unless and until the RTO comes forward with a solution to all of these problems. By doing so, the Commission would fulfill its FPA responsibilities and respect the limits on its authority, without permanently

foreclosing such opportunities should a mechanism other than separation be developed that fully addresses these fundamental challenges.

CONCLUSION

For the foregoing reasons, the Commission should correct the errors in Order No. 841 by granting rehearing as requested above.

Respectfully submitted,

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March 19, 2018

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated on this 19th day of March, 2018.

/s/ Latif M. Nurani

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