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A blurred background image showing several people in a professional setting, likely a conference or meeting. The image is overlaid with a semi-transparent blue filter.

*Examine Together*



# Distributed Energy Resources in Wholesale Electricity Markets: Three Perspectives

## APPA Legal & Regulatory Conference

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# Panel Overview

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- *Advanced Energy Economy*, 161 FERC ¶ 61,245 (2017), *on reh'g*, 163 FERC ¶ 61,030 (2018) (“*AEE*”)
- Storage and Distributed Energy Resource (“DER”) Aggregation Rulemakings, FERC Docket Nos. RM16-23, RM18-9, AD18-10
- DERs – technical issues

# Electric Storage and DER Participation in RTO Markets

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- Notice of Proposed Rulemaking issued November 17, 2016: *Electric Storage Participation in Markets Operated by Regional Transmission Operators and Independent System Operators*, Docket Nos. RM16-23, AD16-20

# Electric Storage and DER Participation in RTO Markets

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- According to the Storage NOPR:
  - FERC “concerned that [electric storage] resources may face barriers that limit them from participating in organized wholesale electric markets.” P 7.
  - Proposed to require RTOs to revise their tariffs to better accommodate wholesale market participation by storage resources.  
P 16.

# Electric Storage and DER Participation in RTO Markets

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- Storage NOPR (P 1 n.2) also defined a new term, “Distributed Energy Resource”:  
  
a source or sink of power that is located on the distribution system, any subsystem thereof, or behind a customer meter. These resources may include, but are not limited to, electric storage resources, distributed generation, thermal storage, and electric vehicles and their supply equipment.

# Electric Storage and DER Participation in RTO Markets

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- For DERs, the NOPR proposed an aggregator concept similar to the one FERC used for demand response resources (“DRRs”) in Order No. 719.
- NOPR proposed a variety of requirements designed to enable distribution-connected and behind-the-retail-meter resources and loads to participate in FERC-jurisdictional wholesale markets

# Electric Storage and DER Participation in RTO Markets

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- Comments on the NOPR were due February 13, 2017, during FERC's quorumless period.

# Electric Storage and DER Participation in RTO Markets

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- Final Rule, issued February 15, 2018, broke NOPR into two pieces:
  - Took final action on Storage (RM16-23)
  - Deferred action on aggregations of DERs to new dockets (RM18-9 and AD18-10)

# Electric Storage Rule

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- But overlap between the two pieces, with implications for jurisdictional questions
  - Storage Rule applies to “electric storage resources located on the interstate transmission system, *on a distribution system, or behind the meter.*” P 29 (emphasis added).

# Electric Storage Rule – RERRA Authority

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- Storage Rule imposes a variety of requirements on RTOs to enable storage resources to participate in wholesale markets.
  - RTO tariff changes to eliminate barriers to DER participation
- Key Issue: Who has authority to regulate Storage DERs – FERC or the relevant electric retail regulatory authority (“RERRA”)?

# Electric Storage Rule – RERRA Authority

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- For Storage DERs, FERC declined to adopt the RERRA opt-in/opt-out it used for DRRs:
  - Under Order No. 719-A's opt-in/opt-out for aggregation of DRRs:
    - RTOs accept bids from DRRs in large utilities, absent express *opt-out* by RERRA.
    - RTOs reject bids from DRRs in small utilities, absent express *opt-in* by RERRA.

# Electric Storage Rule – RERRA Authority

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- In the Storage Rule (P 35), FERC did not extend this same treatment to DERs:

[W]e are not persuaded to grant the ... 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 ....

# Electric Storage Rule – RERRA Authority

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- But the Storage Rule also includes provisions enabling distribution utilities and RERRAs to limit wholesale market participation by storage
  - “[C]ontractually permitted” to inject (P 33)
  - Host utility able and willing to net out wholesale energy (P 326)
  - RERRA authority over cost allocation, safety, and reliability unchanged (PP 36, 274)

# Electric Storage Rule – Simultaneous Retail and Wholesale

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- Key issue: Simultaneous participation by DERs in RTO markets and retail compensation programs
  - NOPR (P 134) proposed that a DER participating in a retail compensation program would *not* be eligible to participate in RTO markets as part of a DER aggregation.

# Electric Storage Rule – Simultaneous Retail and Wholesale

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- Storage Rule (P 325):

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.

- FERC found that necessary accounting practices “complex” but “feasible” (P 324); but no current examples

# Electric Storage Rule

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- Although FERC deferred DER aggregation to new dockets, the Storage Rule included rulings on Storage DERs with mixed signals:
  - RERRA authority
  - Simultaneous participation in retail and wholesale
- Requests for rehearing pending

# DER Aggregation Technical Conference, 4/10-11/2018

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- DERs are coming sooner or later, but there is substantial regional variation.
- DERs have the potential to contribute to resource adequacy and energy needs.
- One-size-fits-all solution for integrating DERs didn't emerge from the technical conference.

# DER Aggregation Technical Conference, 4/10-11/2018

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- Chairman McIntyre: “principal concern is that as we bring these DER resources onto the grid, we avoid messing anything up ...”  
Tr. Vol. 1 at 92.
- Recurring issues:
  - FERC deference to RERRAs
  - No consensus. Would RERRA opt-in/opt-out stunt DER innovation? Is it needed to accommodate diversity among states?

# DER Aggregation Technical Conference, 4/10-11/2018

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- Simultaneous participation by DERs in both RTO markets and retail compensation programs
- FERC Staff's Notice questions focused on issue of avoiding double-compensation for the same service.
- Mapping retail products against wholesale products to identify areas of overlap

# DER Aggregation Technical Conference, 4/10-11/2018

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- Key Issue: What requirements to impose on DERs and DER aggregators? How should they be imposed?
  - Communications; safety/reliability; other
  - Interconnection agreements? Other mechanisms?
  - Tension between “once-and-done” and goal of fostering DERs

# DER Aggregation Technical Conference, 4/10-11/2018

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- Key Issue: Coordination requirements
  - Who's in charge of DER dispatch and aggregation – RTOs, distribution utilities, DER aggregators, or individual DERs?
  - What physical and administrative systems are needed?
  - Jurisdictional issues
- Post-technical conference comments were due June 26, 2018.

# Distributed Energy Resource Aggregation Rulemaking

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- So where does this leave us?
  - FERC is considering comments.
  - Storage Rule and recent *AEE* decisions on Energy Efficiency Resources signal that FERC wants to move past Order No. 719's approach to cooperative federalism.
  - BUT FERC also seems to recognize that it is moving into uncharted waters.

# Questions?



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