

# DER Activity at FERC, NERC & National Labs

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DER Workshop

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# FERC: Order No. 841

- Electric Storage (Docket No. RM16-23, Feb 15, 2018)
  - Order removes barriers to the participation of electric storage resources in the capacity, energy and ancillary services markets operated by Regional Transmission Organizations and Independent System Operators by requiring each regional grid operator to revise its tariff to establish a participation model for electric storage resources that consists of market rules that properly recognize the physical and operational characteristics of electric storage resources.
  - The participation model must ensure that a resource using the model is eligible to provide all capacity, energy and ancillary services that it is technically capable of providing, can be dispatched, and can set the wholesale market clearing price as both a seller and buyer consistent with existing market rules.
  - The model also must account for the physical and operational characteristics of electric storage resources through bidding parameters or other means, and it must set a minimum size requirement that does not exceed 100 kilowatts. The final rule also requires that the sale of electric energy from the wholesale electricity market to an electric storage resource that the resource then resells back to those markets must be at the wholesale locational marginal price.
  - Final rule takes effect 90 days after publication in the *Federal Register* (3/6/18). Compliance filings by the RTOs and ISOs are due December 3, 2018, with an additional 365 days to implement the tariff revisions.

# FERC: Order 841 (Continued)

- Aggregation (Docket No. RM16-23, Feb 15, 2018)
  - FERC determined that more information is needed to address Aggregation and referred it to RM18-9-000

# **FERC:** Technical Conference on *Distributed Energy Resources- Technical Considerations for the Bulk Power System*

- Technical Conference (Docket Nos. RM18-9-000, AD18-10-000)
  - FERC Staff held a Technical Conference on April 10 & 11, 2018 to discuss the participation of distributed energy resource (DER) aggregations in Regional Transmission Organization (RTO) and Independent System Operator (ISO) markets, and to more broadly discuss the potential effects of distributed energy resources on the bulk power system.
  - On April 27, 2018 FERC requested post conference comments, which were due with 60 days (June 26, 2018).
  - No further action by FERC since.

# **FERC:** Staff Report on *Distributed Energy Resources-Technical Considerations for the Bulk Power System*

- FERC Staff Report (February 2018) (Docket No. AD18-10-000) addressed the following, but noted that further exploration is still needed:
  - Practice of netting DERs with load
  - DER Capabilities for frequency and voltage ride-through
  - Potential for improved customer level voltages
  - Potential effects on system-wide transmission line flows and generation
  - Sensitivity of voltage or power needs to different types of DER applications (e.g. energy, capacity or ancillary services)
  - Need to develop planning processes that capture more detailed models of DERs and allow for modeling of the interface between transmission and distribution systems
  - Need to enable information exchange and more accurate calculations of the DER impact on the bulk power system
  - Need to assess the advantages and disadvantages of allowing DERs to participate in the wholesale electric markets

# NERC

- Distributed Energy Resources – Connection Modeling & Reliability Considerations (NERC February 2017), which focused on:
  - Definition of Distributed Energy Resources
  - Reliability of Considerations for DER
  - Data and Modeling for DER
  - Characteristics of Nonsynchronous DER
  - Previous work of the *NERC Integrating Variable Generation Task Force (IVGTF)*
  - NERC Reliability Standards
  - Recommendations on Guidelines, Data Sharing, Modeling, Dynamic Models, Coordination between distribution and transmission entities, Definitions, and Industry Collaboration

# NERC

- Technical Brief on Data Collection Recommendations for DER (DER Task Force)
  - Recommendations for data collection were made by user type (e.g. Balancing Authorities, Distribution Operators, Distribution System Protection Engineers, Distribution Planners, Transmission Operators, and Transmission Planners and Planning Coordinators)
- Inverter Based Resources Connected to the BPS
  - NERC sponsored a five part Webinar series which ran from March 21, 2018 through June 13, 2018
- Created *System Planning for Impact of DER* (SPIDER) Working group (NYISO has submitted the names of two people to be on the working group)

# National Labs

- Impact of Distributed Energy Resources on the Bulk Power System (Argonne National Laboratory, 2017)
  - The report recognizes the need to accurately model DER the impacts on both the Transmission and Distribution systems requires a different approach. They propose to analyze the systems using a co-simulation model, which they will work on developing.



# Questions?

We are here to help. Let us know if we can add anything.

# The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the bulk power system



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