



## MEMORANDUM

To: Interested Parties  
From: Roger Clayton, NYSRC  
Date: April 26, 2018  
Re: Draft Scope for Distributed Energy Resources Workshop

NYSRC's overall concern with DER is its potential impact on NYCA reliability. NYSRC acknowledges the market activities that are being undertaken to implement DER but this workshop will concentrate on DER's potential impact on NYCA Planning and Operations.

The objectives of the workshop are to raise awareness within the NYCA community, provide a forum for DER discussion in New York and to be ready to develop new reliability rules if required. We understand that:

- NYISO is developing procedures for the integration of DER into the wholesale market with the DER Roadmap and DER Pilot Program.
- NY's Joint Utilities are actively integrating DER into NYCA's transmission and distribution systems.

Utilizing the NYISO's and Joint Utilities' experience and expertise into the workshop will be very useful in developing the workshop materials. In addition, the Public Policy activities of NY's DPS is acknowledged.

The initial idea is to concentrate on Photo-Voltaic DER since it is likely to have the most significant immediate technical impact on NYCA Planning and Operations. However, the workshop could be expanded to include EV, wind and storage DER, as required.

### **DER Workshop Scope (concentrating on PV initially)**

- 1. DER Penetration into NYCA (current and future)**
  - a. Behind the meter (retail)
  - b. Before the meter (wholesale)
  - c. NYISO interconnection queue/Gold Book
  - d. SCR & EDRP
- 2. Regulatory Initiatives**
  - a. FERC/National Labs/IEEE
    - i. Electric Storage & DER aggregation NOPR RM18-9-000
    - ii. "FERC Notice of Technical Conference – DER Technical Considerations for the BPS", April 10 & 11, 2018

- iii. “DER Technical Considerations for the BPS”, FERC Staff Report, February 2018
- iv. “Impact of Distributed Energy Resources on the Bulk Power System”, Argonne National Laboratory, 2017
- v. “IEEE Standard for Interconnection and Interoperability of DER with Associated Electric Power Systems Interfaces”, IEEE Standard 1547 revision (in progress), Q2/Q3 2018
- vi. ?
- b. NERC
  - i. “Distributed Energy Resources - Connection Modeling & Reliability Considerations”, NERC, February, 2017
  - ii. “Technical Brief on Data Collection Recommendations for DER”, DER Task Force
  - iii. “DER Task Force Scope”, January 2016
  - iv. “Inverter Base Resources Connected to the BPS”, WEBINAR, May 2, 2018
  - v. ?
- c. NPCC
  - i. Summary of “DER Technical Considerations for the BPS”, FERC Staff Report, February 2018
  - ii. “RSC Discussion – Approaches to Address DER Risks to BES”, March 2, 2018
  - iii. ?
- d. NYISO/NY PSC/Joint Utilities
  - i. “DER Roadmap for NY’s Wholesale Electricity Market”, NYISO, January 2017
  - ii. “NYISO Market Initiatives – DER Roadmap & Pilot Program”, NYISO presentation to ICAP SubCommittee, February 27, 2018
  - iii. “Supplemental Distributed System Implementation Plan”, Joint Utilities, November 1, 2016
  - iv. “PETITION FOR AN ORDER ESTABLISHING A SEPARATE PROCEEDING TO ADVANCE NEW YORK’S ELECTRIC VEHICLE MARKET”, Petition to NY PSC on REV proceeding, 2/21/18
  - v. “Proposed Tariff Revisions Addressing Provision of Synchronized Reserves by Inverter-Based Energy Storage Resources; Docket No. ER18-\_\_\_\_-000”, NYISO’s proposed OATT revisions, 3/29/18
  - vi. ?

### **3. Technical Study Considerations**

- a. Data & validated models (PV, Wind, energy storage/EV)
- b. Load & generation forecasting (dispatchable)
- c. Ramping & variability
- d. Reactive power
- e. Frequency & voltage ride-through
- f. Steady state, dynamic and short-circuit analyses
- g. Simulation tools (MARS, PSS/E, PSLF, ?)

#### **4. Implementation Panel Discussion**

- a. Planning & Operating requirements
- b. Restoration
- c. Protection
- d. Coordination between DSO, TO, NYISO, DER Aggregator
- e. Communications & control
- f. Interconnection criteria
- g. Reliability Standards & Guidelines
- h. Schedule