

# MADRI WORKING GROUP MEETING #49 – March 13, 2018

## INTEGRATED DISTRIBUTION PLANNING

**District of Columbia Public Service Commission  
8th Floor – Commission Hearing Room  
1325 G Street NW  
Washington, DC**

**Remote Participation**

**Web Address: <https://pjm.webex.com>**

**Meeting Name: MADRI Working Group Meeting #49**

**Meeting number: 622 116 418**

**Meeting password: madri0313pjm**

**Teleconference call-in number: 1-866-398-2885 (US)**

**Participant passcode: 555398**

In recent years, electric utilities in PJM and elsewhere have seen a rapid increase in the deployment of small-scale, grid-connected distributed energy resources (DERs) – including energy efficiency, demand response and flexible loads, distributed generation (primarily solar photovoltaic systems), energy storage systems, and electric vehicles. Deployment of these DERs is expected to increase in coming years. In most cases, the utilities do not own or control these DERs, and in some cases they do not even have knowledge of the DER's existence, location, capabilities, and status (i.e., "visibility").

These trends are leading to new challenges for utilities in planning their infrastructure investments and managing power quality at the level of the distribution system. The challenges are distinctly different from the large-scale generation and transmission challenges that are typically addressed by PJM in regional planning processes. For example, adding 10 *kilowatts* of solar generating capacity to PJM's 177 *gigawatt* network would have no discernible impact on generation or transmission system needs, and thus have no impact on regional plans, but it might create significant power quality challenges for the low voltage circuit to which the generator is interconnected. A few jurisdictions in the US have begun experimenting with integrated distribution planning mechanisms that seek to methodically anticipate such challenges and find least-cost solutions for addressing them.

The MADRI steering committee has decided to focus this meeting and several upcoming meetings on the topic of integrated distribution planning, with the goal of ultimately developing a Commission Guide to inform the actions of state public utility commissions and other stakeholders. Today's meeting will launch this effort. It will begin with expert presentations on some of the relevant planning issues, and end with a moderated discussion of how the MADRI community might develop such a Guide including a discussion of an outline and subtopics. Interested stakeholders are welcomed to participate in the discussion and to submit materials for consideration in the Guide.

## AGENDA

**9:30 – 10:00am**

**Networking with attendees**

- 10:00 – 10:15am**      **Introductions**  
The Honorable Betty Ann Kane, Chairman, DC Public Service Commission  
Janine Migden-Ostrander, Regulatory Assistance Project
- 10:15 – 11:15am**      **Overview of Integrated Distribution Planning Concepts and State Activity**  
Lisa Schwartz, Lawrence Berkeley National Laboratory
- With infrastructure aging, DER deployment rapidly growing, and grid modernization technologies promising greater reliability and resilience – and more consumer options – interest in long-term planning for electric distribution systems is on the rise. We’ll start our day with a presentation from one of the authors of a new report for US DOE, [State Engagement in Electric Distribution System Planning](#). The report documents activities in 16 states, including eight with statutory or public utility commission requirements for electric distribution system or grid modernization plans. The report also looks at activities in several additional states to provide a picture of the significant variation in approaches. Ms. Schwartz leads training on distribution system planning for public utility commissions under DOE’s Grid Modernization Laboratory Consortium.
- 11:15am – 12:15pm**      **Hosting Capacity Analyses**  
Sara Baldwin Auck, IREC  
Steve Steffel, Pepco Holdings
- One important aspect of distribution system planning is understanding the ability of the existing system to safely interconnect and integrate additional DERs. Some utilities are now conducting hosting capacity” analyses and developing maps that show where DERs can and cannot be added without significant system upgrades. This session will provide regional and national examples of this kind of analysis and lessons learned.
- 12:15 – 1:00pm**      **Lunch**
- 1:00 – 1:30pm**      **Implementing the New IEEE 1547 Interconnection Standard in PJM States**  
Andrew Levitt, PJM
- PJM began working with select State Commissions and utilities in 2017 in anticipation of the 2018 release of a revised “IEEE 1547” interconnection standard for distributed energy resources. While the IEEE 1547 standard addresses many functions in the “smart inverter” category, PJM’s focus is on the important, but narrow, “ride through” function. The work that states undertake to guide utility implementation of the new IEEE 1547 standard will significantly influence any efforts to conduct integrated distribution system planning. Mr. Levitt will update us on PJM’s work to date, describe the importance of “ride through” for DER integration, how the revised IEEE 1547 standard might be implemented by PJM and by states, and plans for future work.
- 1:30 – 3:00pm**      **GROUP DISCUSSION: MADRI Guide on Integrated Distribution Planning**  
Moderated by Janine Migden-Ostrander, Regulatory Assistance Project

We will finish the day with a moderated group discussion about developing a consensus MADRI Guide on Integrated Distribution Planning. The goals for this discussion include defining the scope, outline and schedule for such a paper, identifying volunteers to work on research and drafting, and agreeing to a process for using upcoming MADRI meetings to review, refine, and ultimately finalize the paper.

**3:00 – 3:15pm**

**Wrap-Up, Adjournment**

The Honorable Betty Ann Kane, Chairman, DC Public Service Commission  
Janine Migden-Ostrander, Regulatory Assistance Project