

## Minutes

# Essential Reliability Services Working Group Face to Face Meeting

May 17, 2017 | 12:00 – 5:00 p.m. Eastern Time

May 18, 2017 | 8:00 a.m. – 12:00 p.m. Eastern Time

### Meeting Location:

NERC Offices  
3353 Peachtree Road NE  
Suite 600, North Tower  
Atlanta, GA 30326

In Person Participation: [MEETING REGISTRATION](#)

Remote Participation: Click on the registration link below for WebEx and receive access to the conference

Teleconference: +1-415-655-0002 US Toll | +1-416-915-8942 Canada Toll

### **WebEx May 17<sup>th</sup> Meeting**

WebEx URL: [Join WebEx meeting](#)  
Meeting number (access code): **738 405 295**  
Meeting password: **ERSWG2017**

### **WebEx May 18<sup>th</sup> Meeting**

WebEx URL: [Join WebEx meeting](#)  
Meeting number (access code): **739 503 451**  
Meeting password: **ERSWG2017**

NERC On-Site Contact: Nicole Segal PhD, [nicole.segal@nerc.net](mailto:nicole.segal@nerc.net), (404)-446-2563

## Agenda Items

Wednesday, May 17, 2017 (Lunch Provided)

**12:00 – 1:00 PM Working Lunch** - Provided

**1:00 – 1:30 PM**

### **1. Administrative**

- a. Welcome and Introductions – *Bob Cummings, NERC Staff*
- b. [NERC Antitrust Compliance Guidelines](#) – *Nicole Segal, NERC Staff*
- c. Facilities & Safety Briefing – *NERC Staff*
- d. Chairs Reports– *Brian Evans-Mongeon, Todd Lucas ERSWG Co-Chairs*  
*Work Plans and timelines should be provided by June 7, 2017 meeting*
  - i. Review March 8, 2017 Meeting Minutes – *Approved*
  - ii. Review latest roster – any changes? – *None, Please email Nicole if not receiving ERSWG or DER emails [nicole.segal@nerc.net](mailto:nicole.segal@nerc.net)*
  - iii. Review Agenda – *Approved*

iv. Next meeting confirmation/Future Meetings –

(1) June 7, 2017 – 12 PM to 5 PM, San Diego, California, WESTIN, Topaz Room Level 2

*Registration for in-person meeting closes May 31, 2017, [MEETING REGISTRATION](#)*

(2) August 2, 2017 – 12 PM to 5 PM, Meeting at NERC Atlanta Offices

August 3, 2017 – 8 AM to 12 PM, Meeting at NERC Atlanta Offices

**1:30 -3:30 PM**

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**2. Measure 1 – 4 Frequency Response Update –**

a. As reported by Julia Matesojvana, Troy Blaylock, and others:

i. Measure 4

1) *Measure 4 (historic) is being evaluated by the Resource Subcommittee. The report is that the data is not ready to share as it has not been finalized. The Frequency subgroup will report on the status at the June meeting.*

2) *NERC is setting up with PI Historian for their data collection repository. This will include frequency response data for both ERS Measure 4 and the Performance Analysis metric M4 (aka ALR 1-12).*

ii. Evaluate and provide recommendation for needed adjustments to Resource Contingency Criteria values used in M2 analysis

1) *Interconnection data for Measures 1&2 (historic) have been presented to the Resource Subcommittee and is viewed as being complete. Matthew Varghese with Performance Analysis is performing an analysis for each interconnection and will be bringing the results to the July Resource Subcommittee meeting. The RS is planning to have a discussion on these analyses at the August 2-3, 2017 ERSWG Meeting.*

2) *The ERSWG discussed whether or not Measure 3, from a historic perspective, was still of value as a predictive indicator. It was noted that BAs with inertia concerns can be isolated by being pulled out of Measure 1 analyses. Mike McMullen from MISO stated that the East Interconnection may not be saving the BA information and the State Estimator is set up to save the Interconnection level data. Additionally, Enoch Davies from WECC stated that all planning cases are mapped to their EMS models so there shouldn't be an issue with data extraction at BA level. Leadership asked the Frequency subgroup to discuss the value of Measure 3 from a historic perspective and bring ideas on continuance or discontinuance to the June 7<sup>th</sup> meeting.*

b. Update on development of forward looking Measures 1-4 analysis methods

i. *Measures 1-4: WECC has been improving their dynamic load model to include higher penetration levels of renewable generation and low load scenarios. The ERSWG decided to wait for all interconnections to develop frequency response analysis and results before bringing into other work, such as NERC's Long-Term Reliability Assessment. The frequency subgroup expects to present an outlined plan for forward looking perspectives on Measure 4 at the August 2-3 meeting. The outlined plan will likely have details for*

*each interconnection (i.e. what years to study, what generation is in the cases, what assumptions are applied etc.).*

- ii. *The ERSWG discussed whether forward looking inertia at a BA level (Measure 3) may be useful for future trending in order to indicate areas where renewable integration levels may be higher and cause those BA's to lean on other BA's for system inertia. Measure 3 needs to have thorough analysis of these impacts with possible use of unit commitment software. However, inertia is being evaluated at an interconnection system level; for future looking, it may be the responsibility of the BAs to evaluate their own inertia at the BA level. Leadership asked the Frequency subgroup to present next steps for evaluating Measure 3 (historic and future) at the June 7, 2017 meeting.*
- c. Ganesh Velummylum presented the development of NERC forward looking frequency case, which can be used for a forward looking Eastern Interconnection Measure 4 analysis.
  - i. *Ganesh V. provided background on the NERC System Analysis group's efforts and how they improved the developed modeling cases. In 2015, the focus was on using the CPP cases, looking at 2021's light load cases. For 2016, the focus was on using the 2017 light load cases to identify more immediate issues.*
  - ii. *There needs to be more communication that the cases being supplied to ERAG and the MMWG are in a consistent PSS/E version so that they will solve off-the-shelf. Additionally, there are vendor specific parameters that can be entered in the model. Mostly today we represent wind resources as non-responsive but we'll need to develop the frequency response models for higher levels of wind penetration and moving forward the frequency response is needed in order to capture responsive wind generators in the planning cases.*
  - iii. *Bob Johnson stated There are some methods to employ wind resources to modulate their output in order to satisfy ACE requirements and for wind to supply Primary Frequency Response during operations but this method does not provide a planning perspective.*
  - iv. *NERC is continuing to work with GE on inputs and updated assumptions for this project and Ganesh V. offered his group's assistance to further refine the development of a forward looking Measure 4 analysis.*
  - v. *Bob Cummings provided an update on the Blue Cut fire (non-qualifying) event and the frequency ride through deficiency of solar inverters in the area. Bob C. reported there is an upcoming NERC Alert that will provide industry with the details of this issue.*

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### **3:30 – 3:45 PM Break**

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### **3:45 – 4:30 PM**

#### **3. M7 - Reactive Capability on the System – Voltage Subgroup**

- a. The ERSWG reviewed the draft Technical Brief on Measure 7. The briefing document provides information on the rationale for the discontinuance of ERS Measure 7 and support for the Reactive Power Guideline. The brief and the referenced work papers will be presented to the NERC Operating and Planning Committees for their action in the June meeting in San Diego. The Voltage Subgroup had identified some edits earlier in the day and has asked for their

incorporation. The ERSWG accepted the changes and authorized leadership to present this recommendation to the NERC Operating and Planning Committees.

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**4:30 – 5:00 PM**

**4. Group Discussion on other ideas and suggestions**

- a. Opportunity for participants to hit on relevant subject matters and or new discussion points.
  - i. *Vermont Electric Power Company (VELCO) – Kerrick Johnson presented that it was a transmission utility formed through a group of distribution companies. They reported that they are seeing an increased penetration of variable resources and are observing similar type results and developing similar concerns on the load/energy forecasts and transmission constraints as have been indicated in the ERS work. In conjunction with formerly IBM Research, they are using new tools to measure and mitigate these issues with a focus on maintaining reliability.*
  - ii. *Utopus Insights – Kerrick J. and Chandu Visweswariah shared with the ERSWG the formation of this new company and how they are using data to make weather and energy output predictions for VER/DER. Their client’s loads are becoming more dependent on weather and are continuing to develop forecasting tools that use AMI readings to create hyper location weather forecasting down to a 1km resolution. They make 2 forecasts/day and have a 91% accuracy.*
- b. 2018 IEEE PES – T&D Conference Paper Panel Session- Ning Kang, Argonne National Laboratory
  - i. *Ning K. asked the ERSWG if they would be willing to support Argonne in their efforts to host the IEEE – T&D Conference Paper Panel Session in April 2018. The panel session is on BES and the impacts from DER. The ERSWG agreed to work with Argonne and will assist in getting volunteers from the ERSWG to participate and provide context for DER related panel sessions. The Policy Subgroup was asked to coordinate the ERSWG activities with Argonne.*

Thursday, May 18, 2017

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**8:00 – 9:00 AM**

**5. Measure 6 BA Level Net Demand Ramping Variability – Ramping Subgroup**

- a. Rodney O’Bryant and Troy Blaylock presented the status of the current work effort on the historic data collections for Measure 6. Rodney O’Bryant reported there is no activity related to quarterly breakdowns of CSP1 and on an annual basis, some areas are showing in some increasing trends. Overall, this measure seems to be performing well, and the subgroup will provide an update on this activity to be provided at June 7, 2017 meeting. Rodney O. also indicated the Ramping subgroup will begin to work members from the RAS and RAPA to develop recommendations for inclusion of ramping assessments in LTRA (coordination with RAS). The present plan would provide for a pilot draft work plan would be developed by Q2 of 2017 and established criteria with modifications to work plan by Q3 of 2017. In support of this work, the ERSWG discussed the need for enhancing load forecasting and resolving uncertainties. The subgroup was asked to consider that work effort under the scope of their assignment, or if it was deemed outside of their expertise, then a recommendation to the June 7th meeting for the creation of another subgroup within the ERSWG. Clyde Loutan stated that

there are multiple causes for the recent unit commitment problem in California and when the event analysis is completed the ERSWG will receive and update on the issue.

**9:00 – 10:00 AM**

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**6. Distributed Energy Resources – DER Subgroup**

- a. Rich Hydzik presented the drafted SAR to modify MOD-032 to replace LSE with DP. The SAR *was developed to modify MOD-32 to replace LSE with DP for the applicable entities in the standards. Rich H. indicated there is no additional language suggested in regards to defining DERs within the SAR coming from the ERSWG. Nicole Segal shared that another SAR may be developed from the LMTF if the LMTF believes it is needed.*

Rich H. provided an update on the draft technical brief/reliability guide for providing guidance on DER data needs for TPs, BAs, & TOPs/RCs. The subgroup will begin work on the data collection guideline; with a target creation date of end of 2017. He indicated that: *1) There are multiple groups looking for this data and there is a desire to reduce duplicative work and requests being sent out to utilities; especially if there are variations in the data being requested; 2) There is currently no drive for a standard to be created as there are existing standards that relate to data collection; 3) Demand-Side Management must be considered separately for composite load modeling efforts from physically generating devices as the functional characteristics are different. A guideline could extend further into high level guidance on when to use composite load models and when to use the disaggregated load models; and 4) That considerations should be given that more probabilistic analytic capability should be considered to evaluate DER moving forward, which include Possibly work with RAS – PAWG group for scenario analysis.*

Leadership asked Clyde Loutan to reach out to Lorenzo (CA ISO) on his questions regarding short term forecasting of DER and bring those questions no later than **June 7, 2017**.

**10:30 – 10:45 AM Break**

**10:45 –11:30 AM**

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**7. Policy Subcommittee – Policy Subgroup**

- a. *David Canter and Mark Ahlstrom shared the subteam’s continued efforts to distill the technical details of the ERSWG related work into materials and takeaways for policy makers and less technical-oriented people. The intention is to provide accessible and understandable data for those much less familiar with the detailed specifics of the technical body of work. There is potential for some of this discussion to continue with NARUC.*

**11:30 AM – 12:00 PM**

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**8. Other Measures, Open Issues and New Items**

- a. There was no other business.

**12:00 PM**

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**ADJOURN**