

DER Report

5/11/19

NERC SPIDER

Meeting at CAISO 4/10,4/11 – Excerpts from meeting minutes:

Update on MOD-032-1 SAR Efforts

The group discussed the latest revision of the MOD-032-1 SAR related to modifications to include DER aspects. After discussion and some edits, the group approved the SAR to move forward to the NERC PC. Further discussion led to the addition of a line item regarding the SDT considering adding a definition to the NERC Glossary of Terms for “distributed energy resources”. **{Action: Jeff Billinton will provide the SAR to the NERC PC leadership for their consideration.}**

Modeling Sub-Group Update

Irina Green and Mohab Elnashar provided status updates for each of the sub-group work tasks. The primary focus was on the DER_A modeling guideline. Ryan presented the modifications to the DER_A guideline to address NERC PC concerns. The SPIDERWG approved the modified guideline to take back to the NERC PC at their next meeting. Next focus is on the DER data collection guideline. Technical presentations were given by Irina regarding CAISO studies using DER_A models. **{Action: Irina and Mohab will begin working with the sub-group on the DER data collection guidelines. Jeff will take the re-approved DER_A guideline to the NERC PC for posting for industry comment.}**

Verification Sub-Group Update

Michael Lombardi and Mike Tabrizi provided status updates for each of the sub-group work tasks. Dan Kopin gave a presentation on risk-based DER data collection. JP led a discussion about a framework for determining the level of model verification activities based on the identified impact or risk of DER on a specific system. **{Action: Michael, Mike, and JP will continue development of the DER performance and model verification guideline.}**

Columbian Power Grid Experience

Lina Ramirez from XM Columbia provided their plans and studies underway regarding DER impacts and BPS performance under changing DER penetration levels. The focus was on voltage and frequency ride-through, reactive power support in localized areas, and challenges in developing requirements.

Coordination Sub-Group Update

Kun Zhu and Taylor Woodruff provided status updates for each of the sub-group work tasks. Manish Patel gave a presentation on grid supportive DER requirements and recommendations being developed at Southern Company. Jens Boemer gave a presentation on IEEE Std 1547-2018 educational materials. **{Action: Kun and Taylor will continue development of work products. The group is awaiting publication of the EPRI report on the standards impacts. Ryan will get the terminology working document posted on the SPIDERWG webpage.}**

Studies Sub-Group Update

Peng Wang and Jameson Thornton provided status updates for each of the sub-group work tasks. Kannan Sreenivasachar gave a presentation on the impacts of DER on underfrequency load shedding studies being performed in the ISO-NE region. **{Action: Jameson and Peng will continue development of work products with the group.}**

DER Efforts at EPRI

Deepak Ramasubramanian gave a presentation on DER model benchmarking and testing of full-system cases. The presentation showed that model parameterization is key for identifying impacts of DER on the BPS, and also illustrated that case crashing and abnormal performance issues that occur when DER models are included in the case may not be caused by the DER model itself (and may be attributed to system characteristics, particularly for severe contingency studies).

Transmission-Distribution Co-Simulation Techniques and Tools Development

Karthik Balasubramanian gave a presentation on transmission-distribution co-simulation techniques and considerations for tools development, including an update on activities ongoing at Argonne National Lab.

Work Plan Review

Ryan Quint quickly reviewed the latest work plan developed by the sub-group leads and solicited any comments. **{Action: The updated work plan will be provided to the NERC PC leadership for inclusion in the latest PC work plan.}**

Roundtable Discussion

Discussions centered on needing to perform more studies with the model and sharing the parameterization and lessons learned from using these models. A comment was made regarding including a mix of immediate issues (i.e., conventional planning issues) and future looking issues (i.e., high DER conditions and what to do in those cases) in the meetings. Another comments mentioned including international perspectives as well.

Next Meetings/Conference Calls

Future meetings are TBD based on progress of IRPTF work products and approval of the IRPTF guideline.

Date	Time	Location
July 24-25, 2019	Wednesday full day Thursday full day	Salt Lake City, UT (WECC)
October 8-9, 2019	Tuesday full day Wednesday full day	Chicago, IL (ComEd)
TBD	TBD	TBD

**Presentations made at the meeting are listed below with a few comments –
Note PDFs of all papers available on the NERC SPIDER website:**

-SPIDERWG Coordination - Grid Supportive DER Requirements - Patel

No control over legacy RDR. Southern Companies view for UDER-require Cat II, adjust UV trip settings, not require but accept UV reactive support.

-SPIDERWG Coordination - Educational Resources for IEEE Std 1547-2018 – Boemer

Great paper describing tension between distribution DER and BPS DER and provides educational resources associated with IEEE-1547.

-SPIDERWG Coordination - Subgroup Update 20190410 - Woodruff and Zhu

Technical review of IEEE Std. 1547-2018 and development of any guidance on determination and effective use of performance requirements and settings within IEEE 1547-2018. On going.

-SPIDERWG DER_A Parameterization System Impact final – Ramasubramanian

EPRI studies show promise on representing distribution DER composites in DER_A parametrization model. All positive sequence programs can use. Momentary cessation can be modeled.

-SPIDERWG Modeling - DER Modeling Guideline IG – Green

NERC Spider DER_a Guideline released in March. Some concerns with the DER_A model raised but found out to be error in use so **model approval is expected**. Works across all simulation platforms.

-SPIDERWG Modeling - DER Models study CAISO – Green

-SPIDERWG Rective Support of DER in the Colombian Power Grid

-SPIDERWG ANL COSIM

-SPIDERWG Studies Sub-Group Update - Wang and Thornton

-SPIDERWG ISO-NE Public Final – Sreenivasachar

-SPIDERWG Risk-Based DER Data Collection – Kopin

NEW YORK

New York ITWG - Meeting 4/24/19 see NYITWG website for details

New York IPWG – Meeting 4/23/19 see NYIPWG website for details

- Discussion of straw proposal to have projects of 5 MW or less work through SIR and those greater than 5 MW go through utility process – developers need to look at proposal and provide input. Concern that there is no ability to allocate costs for developers to fund upgrades in one interconnection process to any developer in another interconnection process. See NYIPWG website for meeting materials.
- Regarding SIR design review and acceptance – discussion of a guidance document what are typically considered to be material vs non-material modifications for in-queue DG applications that are part of the SIR application process.
- Presentation on requirements of 25/75 payments for upgrades- proposal to make 75% payment upon 120 day elapsed time or project acceptance by utility whichever is greater.