DER Report

8/09/19

NERC Spider 7/25,26/19

Some highlights of the 2 day meeting on August 25 and 25 follow:

- **Mod 032-1 SAR** – There was a lengthy discussion on this SAR involving the comments received. Many comments were editorial but many focused on the difficulty that some entities had with DER data collection. Some entities indicated that they had no problem with this while others stated that it would be years before process for data collection could in place due to separation between distribution providers and load serving entities some involving coops. In short, some this data collection would have to be worked through a stakeholder process. One pushback is that the SAR asks for information beyond the jurisdiction of NERC. The main push forward is that load information has long been required for planning studies and that now DER is really just part of the load picture and is increasing. Spider will move forward, go through the comments and provide responses to help clarify issues and issue a redline version to this group by August 12. Submission to PC by August 27.
- **DER data Collection Guideline** – The purpose is to provide guidance as to what type of data is needed to model DER for DER_A. Planners then make assumptions on load and generation profiles to build their study cases. There was a discussion on dispatch beyond 50% Pmax noting the impact of needed headroom. See below.
- **DER Modeling Survey** – The purpose is to gather information on industry modeling activities. A draft survey will go out to the Spider working group for review to see if more questions needed to be asked. Sample questions: Are you a TP or a RC? What range of renewables in your area? How are they modeled?
- **Modeling Notification - Dispatching DER off Pmax –** This draft guideline discusses use of control settings to handle cases where dispatch is off of Pmax. And provides control settings to fit a given situation. For example, if 5 kw panel is operating at 1 kw, it can only provide this amount even if frequency droops. This assumes that the DER vintage has frequency control capability. The guideline indicates turning off frequency control. See notification released 7/24. Comments are due by August 16 to Ryan and Depak.
- **Technical presentations:**
    - **Sensitivities between parameters of DER_A model on the CAISO System** – A very detailed technical presentation providing simulated responses to 3 phase faults on the 500 kV CAISO system. It provides responses of UDER and RDER (aggregate models). And includes many plots with conclusions that DER_A models are working for both UDER and RDER aggregated models with transient recovery Voltages being dependent on DER settings.
    - **Updating protection settings on older DERs to improve ride through**. This presentation was provided by a representative of Ontario Hydro. It was observed for a fault at

Darlington, the unit plus a large amount of DER was lost. Solutions considered changing the DER settings, adding a STATCOM or synchronous condenser or requiring higher reserves (interim solution). It was decided to change the settings on the larger DER units first as 200 out of 3700 units account for 67% of the DER base.

- **DER forecast errors and potential impact to studies**- This presentation was made by ISO-NE describing the challenges of load forecasting over the last 6 years.
- **Tripping Response to unbalanced transmission faults**- Details on variations of DER tripping for unbalanced faults vs 3 phase faults. Conclusion is that using 3 phase models may indicate more ride through capability than actual for unbalanced faults.

- **Educational Materials**-A discussion of developing a repository of quality materials developed by large utilities and regional entities as well as NERC, EPRI and NREL. Ryan Quint is taking the lead on this activity.
- **IEEE 1547 white paper by NERC** – This is a paper that addresses why the 1547 standard is important to NERC and highlights the importance of coordination between the DU's and NERC. It discusses the role of frequency control response as future systems will have reduced amounts of physical inertia. This will likely evolve into a reliability guideline.
- **Summary**
- Planning, modeling, coordination issues were discussed.
- Mod 032-1 SAR was discussed with target submission to PC by August 27.
- Modeling notification guideline regarding dispatch of generation off of Pmax-working group comments requested by August 16.
- Various technical presentations were presented including DER_A modeling simulations by CAISO and use of DER setting changes by OH to minimize impact of loss of Darlington unit plus loss of large DER amounts due to transmission faults. Also an ISO-NE presentation on load modeling.
- Also, day 2 afternoon discussions by the study group on topics including BPS planning under increasing DER, guidelines for developing UFLS and UVLS programs with increasing DER penetration. (I was unable to attend these discussions).
- Papers to be posted on Spider WG website.
- Next meeting - Next Meeting confirmed at COMED in Chicago, **Oct 8 and 9**. Limit 60 attendees in person.

NPCC

Next meeting of the DER subgroup scheduled for Aug 8 in Toronto in conjunction with the RSC meeting on the previous day.

NEW YORK

New York ITWG - Meeting 6/26/19 - see NYITWG website and click on meeting notes for a detailed discussion of all agenda items. Next meeting at NYSERDA on **Aug 28.**