**IBRWG Update**

**August 2024**

**Chair: Julia Matevosyan, Vice-Chair: Miguel Cova Acosta**

**IBRWG met on August 9th (Webex, Open Meeting).**

The agenda and the presentation slides are available [here](https://www.ercot.com/calendar/07122024-IBRWG-Meeting-_-Webex)

**IBRWG Main Meeting**

**GFM Requirements Update**

Fred Huang (ERCOT)

* + ERCOT in collaboration with Electranix (consultant) are developing testing framework and functional specifications for advanced grid support from ESR, i.e. grid forming (GFM) capability
  + At the July IBRWG meeting two presentations: one on GFM Specification and Testing Framework, by Electranx; the second presentation was on assessment of impact of GFM batteries on ERCOT grid and GTCs and adoption framework going forward.
  + One of the comments last month was to share the revision request draft with IBRWG before it’s formally submitted. ERCOT is working on it right now and planning to post a week before September IBRWG meeting and we’ll review and discuss at the meeting after which it will be formally submitted.

**SPWG/IBRWG Coordination, Auto-reclosing close to IBR plants**

Mark McChesney (Oncor, SPWG chair)

* + The action item was assigned to SPWG and IBRWG at the March ROS meeting to develop guidance and recommendation for adjusting transmission auto reclosure and sectionalizing schemes that would significantly improve the IBR ride through probability and be reasonable to accomplish.
  + This was discussed at SPWG first. At IBRWG Mark provided 2 examples (slides are posted) on how auto reclosing is done today.
  + The reclose settings can potentially be adjusted if need to improve reliability and IBR ride through performance.
  + There is value to consider these auto reclosing schemes around IBRs and in asking TSPs about ranges of schemes and settings are being used. If TSPs could look at IEEE 2800 requirements and try not to auto reclose within these parameters, that’s ensures better alignment (related to consecutive event ride-through capability).
  + The action on SPWG is to review IEEE 2800 and to make sure that auto reclose schemes do not create conflict with multiple excursions requirements.
  + Current ask from SPWG is to summarize this range of TSP auto reclose schemes. SPWG will work on that, summarize and publish that information.

**ERCOT RFI to Support Single Model ESR**

Joel Koepke (ERCOT)

* + Made this presentation at RAWG
  + Already issued an RFI on August 6th to the REs or commissioned or near commissioned ESR, i.e. resources that are currently modeled with a combo model (load + gen) and for which ERCOT hasn’t had a chance to ask for additional information needed for a single model representation. New resources will provide this same data via standard RIOO used interface.
  + ERCOT issued this RFI to collect information to support RIOO’s transition to single model representation of ESRs.
  + ERCOT is moving from a combo model representation of ESR to a single model representation as a part of RTC+B initiative (Real time optimization + battery) by Q4. This project is to move to a single model representation in RIOO ahead of time. The project should conclude in September 2024.
  + Market notice was sent out that contains the details of this. <https://www.ercot.com/services/comm/mkt_notices/M-A071024-02>

**NERC Standards Update: PRC-029, PRC-028, PRC-30**

Julia Matevosyan (ESIG)

* + Julia presented an update of Milestone 2 of NERC’s Work Plan in response to FERC Order 901, three standards are currently in their **final** ballot phase:
    - [PRC-028](https://www.nerc.com/pa/Stand/Pages/Project-2021-04-Modifications-to-PRC-002-2.aspx) Disturbance Monitoring and Reporting Requirements for Inverter-Based Resources, Draft 4
    - [PRC-029](https://www.nerc.com/pa/Stand/Pages/Project_2020-02_Transmission-connected_Resources.aspx) Frequency and Voltage Ride-through Requirements for Inverter-based Resources, Draft 3
    - [PRC-030](https://www.nerc.com/pa/Stand/Pages/Project-2023-02-Performance-of-IBRs.aspx) Unexpected Inverter-Based Resource Event Mitigation. Draft 3
    - NERC Glossary, [IBR Definition](https://www.nerc.com/pa/Stand/Pages/Project-2020_06-Verifications-of-Models-and-Data-for-Generators.aspx), Draft 3
    - The ballots and non-binding poll is open **through 8 p.m. Eastern, Monday, August 12, 2024**.
  + This was the last opportunity for NERC to ballot these projects through traditional mechanisms.
  + NERC Board may take requisite action during the August 2024 Board of Trustees meeting to ensure directives are met, i.e.. the requirements are completed and filed with FERC **by November 4, 2024**
  + Approval rates in the past ballots for these standard drafts and the fact that there are some discrepancies with IEEE 2800-2022, including frequency ride through requirements. The latter is specifically concerning as there is no exemption process for frequency ride-through prescribed per FERC Order 901.

**NOGRR245 Update**

Stephen Solis (ERCOT)

* + The meeting page from 8/8 on NOGRR245 – Review of Current Status <https://www.ercot.com/calendar/08082024-NOGRR245-_-Review-of> the presentation posted there contains information on current status and next steps for NOGRR245 (at the bottom of the meeting page)
  + The key takeaways from that presentation are:
    - Additional work has been done between ERCOT and Joint Commenters.
    - The comments will be posted on Monday 8/12 and then it will go to Reliability and Markets Committee and then to the BOD.
  + Andrew Nigro had a question related to modeling and was asked to wait until DWG Procedure Manual item.

**RoCoF and Phase Jump Measurement Discussion:**

Stephen Solis (ERCOT)

* + Additional discussion on RoCoF and phase-jump discussion and measurement window associated with it.
  + This is to get clarity on how to get conformity assessment with IEEE 2800 will be done and post event analysis. This is initial conversation and get some feedback.
  + RoCoF requirements from IEEE 2800. IBR plant has to ride through the events where RoCoF is less than or equal 5 Hz/s. **RoCof shall be average rate of change of frequency over averaging window of at least 0.1 s.** The standard doesn’t define the higher end. Is 0.1 s sufficient for ERCOT?
  + Latest guidance from IEEE P2800.2 standard drafting team recommends that TSP and RE agree on the method to measure frequency and calculate RoCoF.
  + The drafting team reiterates that **RoCoF and phase jump requirements are applied during switching events (line switching, generator or load trips) and are not fault related**. Even if frequency, RoCoF and phase jump protection exists it’s often disabled during severe voltage dips and fault clearance.
  + We will try to invite OEMs to talk about how they calculate frequency and RoCoF in September/October IBRWG meetings.

**DWG and IBRWG Collaboration**

**DWG Procedure Manual – ERCOT’s Response to Stakeholder Comments**

Sun Wook Kang (ERCOT)

* + Detailed account of all comments and ERCOT’s responses on the slides
  + Asked to review updated DWG Procedure Manual and submit comments by August 16. Approval will be sought at September ROS. Effective date will be upon NOGRR245 approval

**Other Industry Update**

Julia Matevosyan (ESIG)

* + Reminder about ongoing DOE-funded i2X FIRST forum focusing on changing landscape of IBR connection and performance standards, focusing on IEEE 2800-2022 adoption as well as changing NERC Standards following up on FERC Order 901 directives. The meetings are monthly.
  + **Sign up** for all future i2X FIRST Meetings here: [https://www.zoomgov.com/meeting/register/vJItceuorTsiErIC-HInpPbWuTUtrYQAuoM#/registration](https://www.zoomgov.com/meeting/register/vJItceuorTsiErIC-HInpPbWuTUtrYQAuoM)
  + **Follow** DOE i2X FIRST website: <https://www.energy.gov/eere/i2x/i2x-forum-implementation-reliability-standards-transmission-first> for meeting materials & recordings and for future meeting details & agendas
  + There was a very relevant panel during IEEE PES GM 2024 on Status of IBR Standards Development and Integration Efforts. ESIG is writing a summary of the panel and will post on their webpage.
  + Related to Grid Forming, on July 30th, SMA presented at the ESIG webinar: Emerging US Market Requirements for GFM BESS, and a Practical Exercise for a Potential Plant Design Approach.
    - [Download Presentation](https://www.esig.energy/download/emerging-us-market-requirements-for-grid-forming-bess-and-a-practical-exercise-for-a-potential-plant-design-approach-frank-berring-meubrink/?wpdmdl=11875&refresh=66a97d9e81f6a1722383774)
    - [View Webinar Recording](https://youtu.be/8C5iUwdSUY4)
    - [Download Q&A Responses](https://www.esig.energy/wp-content/uploads/2024/08/QA-July.pdf)