**IBRWG Report To ROS**

**April 2024**

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

**IBRWG met on April 12th (Webex, Open Meeting).**

**TSAT Model Status Update**

Fred Huang (ERCOT)

* + Still 20 projects without an acceptable TSAT model, various follow-ups on the way, but ERCOT is ready to escalate as compliance issue.
  + At the same time ERCOT is testing internally, to get computational capability up and identify additional scenarios for TSAT deployment.
  + ERCOT is testing most of the relevant GTCs, with all accepted dynamic models for historical system conditions/cases, run TSAT to find the limit and comparing with offline table.
  + ERCOT will identify the set of GTCs to use in real time and keep others offline for now.

**GFM Performance Requirements Update**

Fred Huang (ERCOT)

* + ERCOT engaged Electranix, a well-known consultant in advanced power system analysis, to help recommend GFM requirements and testing procedures.
  + Expect to have an initial draft in early summer.
  + ERCOT is engaging vendors to get OEM specific models to understand capabilities and limitations of GFM.
  + Currently ERCOT has good support from Power Electronics, SMA, Tesla, Sungrow (all are BESS inverter OEMs).
  + The benefit of vendor support provides along with the benefits, identify how to verify, vendor provided models are plugged into testbed and validated for preliminary GFM capability, to see if response from the models is matching ERCOT’s expectations.

**NOGRR245, NOGRR255 Update**

Stephen Solis (ERCOT)

* + TAC approved amended Joint Commenter version of NOGRR245
  + ERCOT cannot agree to this version due to reliability impacts.
  + For NOGRR255 expect some comments from Luminant and some concerns from TIEC
  + The updated version of NOGRR255, taking the above concerns into consideration, was expected to be approved by April TAC.
  + Questions to be solved still, in conjunction with NOGRR245/255 is how to measure RoCoF and phase jump and get alignment between ERCOT and GOs.

**Consecutive Ride Through Limitations, Language - discussion**

Stephen Solis (ERCOT)

* + - Previous discussion at IBRWG on wind turbine limitation to ride-through multiple disturbances of certain magnitude and duration.
    - IEEE2800 did not address this issue but it should be addressed.
    - In NOGRR245 was going back and forth about how to identify
    - ERCOT needs to capture these limitations in the protocol language.
    - IEEE2800.2 drafting team has proposed language with this exception.
    - ERCOT’s initial thoughts are trying to leverage that verbiage for wind turbines to be allowed to trip if they reached those limitations for multiple ride-through.
    - Looking for feedback from the group

**NERC Standards Update**

Presented by Patrick Gravois (ERCOT)

* + Project 2023-01 EOP -004 IBR Event Reporting
    - Current EOP-004 criteria uses relatively large threshold for generation loss events more suitable for synchronous generation
    - A lower threshold is needed to identify events with multiple IBR loss. Currently SDT proposed 500 MW threshold for IBRs
    - Subsequent additional ballot scheduled for July/August 2024
    - NERC Board Adoption scheduled for December 2024
  + Project 2023-02 PRC-030-1 Analysis and Mitigation of BES Inverter-Based Resource Performance Issues (PRC-004)
    - Requiring GOs to have a documented process for identification of unexpected changes in power output occurring within a two-second period and is the greater of either 20% of the plant's gross nameplate rating, or 20 MVA.
    - Requiring GOs to identify, report and analyze such events; as well as develop and implement corrective action plan.
    - Formal comment and ballot period concluded on 4/18/2024.
    - NERC Board Adoption scheduled for December 2024

Presented by Julia Matevosyan (ESIG)

* + Project 2020-02 Modifications to PRC-024 (Generator Ride-through)
    - PRC‐029‐1 – Frequency and Voltage Ride‐through Requirements for Inverter‐Based Generating Resources – New standard for IBRs.
    - The draft strives to align with IEEE2800 ride-through language.
    - Implementation plan calls for reporting of limitations in existing IBRs and plans for removing the limitations with estimated dates.
    - The formal comment period with initial ballot concluded on 4/22/24.
    - NERC Board Adoption scheduled for August 2024

**Other Industry Updates**

Presented by Julia Matevosyan (ESIG)

* + i2X FIRST - Forum for the Implementation of Reliability Standards for Transmission led by DOE (SETO & WETO), LBNL, ESIG and EPRI to help the industry navigate changing standard landscape. Preliminary date of the first meeting is 05/28 10 am – 12 pm Central Time.
  + MISO is working on developing Grid Forming Requirements; targeting draft whitepaper and implementation language by the end of the year
  + IEEE PES Power and Energy Magazine, March/April issue dedicated to IBRs with many topics relevant to the scope of IBRWG.

**DWG and IBRWG Collaboration**

**Vestas, IEEE2800 Conformity Assessment**

Presented by Miguel Acova Costa (Vestas)

* + Shared ideas based on Vestas IEEE2800 Evaluation
  + Identified gaps, where more clarity in IEEE2800 language or IEEE2800.2 procedures is needed.

**Initial Ideas from Modeling Guide Update**

Presented by Jonathan Rose and John Schmall (ERCOT)

* + Proposed tests and criteria for Preferred LVRT and HVRT envelopes
  + Proposed Transient Overvoltage Tests
  + Next steps will include:
    - Feedback and presentations from OEMs
    - SLG fault test for PSCAD models
    - Other tests, beyond VRT
    - Draft DWG Procedure Manual Language.