**IBRWG Report To ROS**

**February 2024**

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

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

**IBRWG Leadership Update and ROS Update**

Update by Julia Matevosyan (IBRWG Chair)

* + New IBRWG leadership was approved at February ROS with Julia Matevosyan (ESIG) serving as a chair and Miguel Cova Acosta (Vestas) serving as a vice chair. Thank you to Mohammad Albaijat for his two years’ serving as IBRTF and IBRWG chair.
	+ Re-iterating on several stakeholder request for specific discussion topics and ROS open action item (from 11/02/2023).

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| Request to conduct a focused review with ERCOT Staff, identifying challenges and recommendations in next steps to implement TSAT, specifically engaging with Resource Owners to provide transparency of the issues and timelines for meeting compliance deadlines and OEM model improvements, and to consider the impacts of the 10% vendor models not submitted/or responsive.  | At 01/12/24 IBRWG meeting ERCOT presented an update on the topic of TSAT modeling.At the time 5% of models were missing. Additionally, ERCOT made updates to their modeling guide for user defined TSAT models. The changes are based on lessons learned by ERCOT during model collection and quality testing process. ERCOT trusts that these changes will reduce back and forth between generator owners and ERCOT and will result in reduction of models rejected by ERCOT. This will move the needle on the last 5% of models. ERCOT is currently working on TSAT testing and still aiming for get few relative less complicated GTCs online in 2024. |

**Update on NOGRR 245 and NOGRR 255**

Update presented by Stephen Solis (ERCOT)

* + On NOGRR 245 ERCOT is working with stakeholders to find a compromise.
	+ ERCOT will asked TAC to table in February
	+ NOGRR255 was approved at Februaty ROS meeting, it will be back at in March with IA review.
	+ ERCOT is at the version of NOGRR255 that seems to be acceptable for everyone.

**ERCOT Update on the 10/26/23 Solar and LFL Event**

Presented by Julia Hariharan (ERCOT)

* + On October 26, 2023, at 10:28 AM CDT, a 138 kV line in West Texas experienced an unbalanced fault, normally cleared in about 4 cycles
	+ Lowest West Texas PMU, voltage recorded was 0.85 pu on a 138 kV line
	+ The event resulted in a loss of approximately 246 MW of PVGR, 144 MW of conventional GR, and 179 MW of LFL (without breaker opening)
	+ System frequency dropped to 59.972 Hz and returned to 60 Hz within approximately 10 seconds
	+ This is not a NERC-reportable event. RFIs were sent by ERCOT to all involved parties to get more information and got responses from all PVGRs
	+ Got responses from 5 out of 6 loads (expecting the last response on 2/9)
	+ Lowest voltage sag observed by a PMU at these facilities was around 0.85 p.u., LFLs have limited VRT capability (tripping due to small sag in voltage)
	+ ERCOT will keep tracking events involving LFL and work with LFL owners to address any questions pertaining to VRT
	+ ERCOT will summarize three recent South Texas events at the March meeting. ERCOT is seeking to set some general criteria for individual events to be followed up on by REs themselves and reported to ERCOT, so that ERCOT can focus their energy on the bigger ones.

**DWG and IBRWG Collaboration Update**

Presented by John Schmall (ERCOT)

* + DWG and IBRWG will have an informal collaboration rather than spinning off another Task Force. IBRWG will report on this collaboration to ROS as a part of regular IBRWG updates.
	+ This collaboration will be looking to review and update modeling guide and MQT as needed to assess performance proposed in NOGRR245 – we can already start with some ideas of where the changes may be needed.
	+ The DWG/IBRWG collaboration meetings will be held after lunch on the day of (and as a part of) IBRWG meetings.
	+ Future topics for this collaboration (past NOGRR245 needs) may include grid forming modeling and testing requirements, BESS energy augmentation (as presented by Tesla at January meeting). This is currently discussed in IEEE2800.2.

**NERC Work Plan in Response to FERC Order 901**

Presented by Mark Henry and David Penny (Texas RE)

* + FERC Order 901 was issued in October 19, 2003 directing NERC to submit a detailed standards development plan to address IBR reliability gaps in four areas
		- Data sharing
		- Model validation
		- Planning and operational studies
		- Performance requirements
	+ An additional item is registration of smaller IBRs, it’s still above 10 MW registration required at ERCOT but note that NERC rules over time are going to apply to the smaller units.
	+ Workplan filed by NERC (on January 17, 2024), posted here <https://www.nerc.com/news/Pages/NERC-Submits-Comprehensive-Work-Plan-Addressing-FERC-Order-901-Directives.aspx> prioritizing standard development efforts as follows:
		- Development and Filing of Reliability Standards to Address Disturbance Monitoring Data Sharing, Performance Requirements, and Post-Event Performance Validation for Registered IBR (proposed completion: November 4, 2024)
		- Development and Filing of Reliability Standards to Address Data Sharing and Model Validation for all IBR (proposed completion: November 4, 2025)
		- Development and Filing of Reliability Standards to Address Planning and Operational Studies Requirements for all IBR (proposed completion: November 4, 2026)
	+ The way NERC process works
		- Standard Drafting Team develops the standard language.
		- Balloting body, all registered entities get to vote
		- Then it goes to NERC Board for approval and then to FERC
	+ Some areas (e.g. MISO, SPP, NYISO etc) including ERCOT started on the path of IEEE2800 adoption, so there is a need to make sure that the new standards or updated standards that come out of NERC are not conflicting with these adoption efforts and do not create confusion.
	+ IBRWG will introduce a standing agenda, where participants from various NERC Standard Drafting Teams can provide updates.

**ENSTO-E and AEMO Grid Forming Requirements Update**

Presented by Julia Matevosyan (ESIG)

* + In January 2024 AEMO published GFM Core Requirements Test Framework <https://aemo.com.au/-/media/files/initiatives/engineering-framework/2023/grid-forming-inverters-jan-2024.pdf?la=en>
	+ AEMO GFM Specification itself came out in May 2023 and was presented previously at IBRWG. <https://aemo.com.au/-/media/files/initiatives/primary-frequency-response/2023/gfm-voluntary-spec.pdf?la=en&hash=F8D999025BBC565E86F3B0E19E40A08E>
	+ The tests are solely based on simulations using 3 specified test benches
	+ Some of the tests are the same as in the NERC GFM BES Specification that was presented at IBRWG in 2023.
	+ ENTSO-E Requirements for Grid Forming were presented at IBRWG in Jan 2023
	+ The version that was recently approved by the regulator, ACER, specifies high level GFM requirements, as per initial proposal, but unlike in the initial proposal, leaves it up to each system operator to adopt these requirements. This decision was based on industry pushback due to varying IBR penetration levels in various parts of ENTSO-E.