

Control Room Solutions Task Team

NASPI Fall Work Group Meeting
9/23/2025

Co-leads:

Kliff Hopson – Bonneville Power Administration

Mike Nugent – Nextera Energy Transmission

CRSTT Work Plan

This team's priorities are to:

1. Work directly with grid operators and electric utilities to identify and help resolve issues that are impeding the implementation of synchrophasor-based applications in operations.
2. Develop documentation that defines the safety, reliability and economic benefits that synchronized measurement technology provides.
3. Recognize and share industry best practices.
4. Support the design, development and delivery of synchronized measurement application training for end users.
5. Promote operational event analysis to demonstrate the value of synchronized measurement technology.

Agenda

- NASPI Role-Based Training (Control Room Operators)
- SMWG Roadmap for Integrating Synchrophasors into Operations
- Grid Reliability and Blackout Prevention (Iberian Blackout)
 - Damir Novosel, Quanta Technology
- Real-Time Stability Monitoring SAR Task Force

SMWG Roadmap for Integrating Synchrophasors into Operations (a CRSTT/SMWG partnership)

Stage 1: Foundation & Awareness

Stage 2: Pilot Deployment & Infrastructure Setup

Stage 3: Application Development & Use Case Prototyping

Stage 4: Evaluation, Business Case & Executive Buy-In

Stage 5: Operationalization & Integration

Stage 6: Continuous Improvement & Innovation

Grid Reliability and Blackout Prevention (Iberian Blackout)

Damir Novosel – Quanta Technology

Integrated Solutions to Preventing Blackouts and Improving Reliability



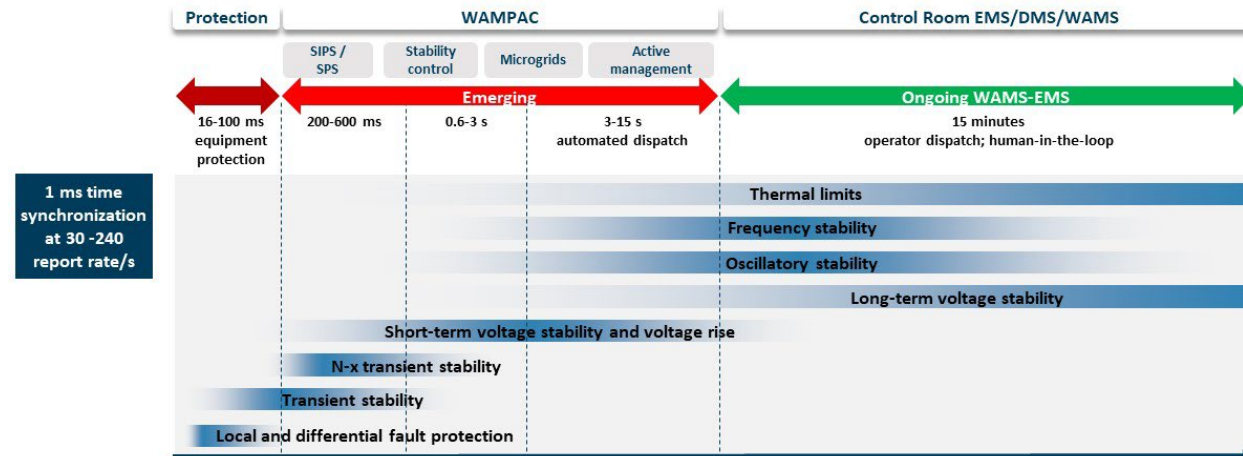
System solutions:

- ✓ **Invest** in grid infrastructure, including **dynamic voltage control** (e.g., STATCOM).
- ✓ **Deploy and integrate** advanced sensors (e.g., AMI, PQ meters, condition monitoring, GIS, PMUs, weather data, drones, robots).
- ✓ **Coordinate** across RTOs/TSOs and **train operators** for improved situational awareness and response.
- ✓ **Implement Wide Area Monitoring, Protection, and Control systems** for control and situational awareness to augment EMS/DMS/SCADA:
 - Detect low-frequency oscillation.
 - Manage voltage stability.
 - Apply adaptive & system integrity protection.
 - Enhance communication speed and reduce latency.



Generation & load solutions:

- ✓ **Control and protect IBRs** to enable dynamic control and avoid unnecessary trips through **standards, design, and testing**.
- ✓ **Develop accurate IBR models** to facilitate analysis, integrated studies, and grid operations.
- ✓ **Improve visibility** of behind-the-meter DERs.
- ✓ **Leverage versatility and fast response** of IBRs in new design of both system and IBR controls.
- ✓ **Establish clear market models** that account for co-located data centers and their impact on load profiles.



Real-Time Stability Monitoring SAR Task Force – overview and working session

Task Force Leaders:

Kevin Ostash, Jared Tarr, Marianna Vaiman,
Dr. Mani Venkatasubramanian, Mike Nugent

Summary

- To summarize:
- A gap in real-time assessment tools for real-time stability and oscillation monitoring assessment
- A lack of direct wording in the FAC-011-4, RTA and OPA standards pertaining to stability assessment requirements during operational time horizons
 - No requirement to monitor and report on islanding
 - No requirement to monitor oscillations for stability / undamped modes
- IRO-002-7 WECC Variance requires WECC RC's to monitor for oscillations using Wide Area systems and PMU's. However, the rest of North America is not required to perform this assessment.

Purpose

- Real-time Stability Monitoring Task Force will investigate the development of a NERC Standard Authorization Request (SAR) to address the following:
 - Update required RC's and TOPs NERC standards to ensure these entities
 - Monitor for stability and oscillations in real-time operations
 - Have an operating plan to address these events
 - Communicate stability or oscillation issues to required entities
 - Provide necessary updates to the RTA and OPA definitions to recognize the requirements for assessing and monitoring stability in the RTA and OPA timeframes.

Activities

- Review and summarize current North American NERC standards related to real-time monitoring of stability and oscillations.
- Review what other jurisdictions from other parts of the world are required to do? Utilities in other areas already rely exclusively on WAMS technology for monitoring stability, inertia, and corrective action (Iceland, Brazil, UK, etc). Task force to investigate and report on these instances.
- Review and summarize major system events and recommendations from around the world.

Workplan

- Meetings:
 - Leadership meets biweekly
 - Main group meets monthly
 - Meeting minutes and action items reviewed / shared with the team
- Timeline:
 - Work complete by end of 2026

NERC Project 2025-03

- NERC recently posted a lessons learned on IBR control interactions and oscillatory events (see attached - LL20250901_IBR_Controls_Oscillation_Events). Coincidentally, a NERC 2025-03 Operational Studies SAR is out for comments regarding IBR inclusion in NERC standards based on FERC order 901.
- The [Project 2025-03 Order No. 901 Operational Studies](#) was drafted by NERC in support of FERC order 901, which is related to IBR/DERs:
 - “This project will incorporate directives related to the inclusion of IBR performance and behavior in operational assessments and real-time monitoring of individual IBR plants (i.e., individual IBR) as well as IBR plants in the aggregate across an operator’s footprint (i.e., IBR in the aggregate). Further, the drafting team will address the similar FERC Order No. 901 directives to include aggregate DERs in operational assessments and real-time monitoring. “
- In this SAR, NERC is seeking to make changes to the RTA and OPA definitions to account for IBR models and monitoring.

NERC Project 2025-03

- There are some parallels/alignment here between the lessons learned, the NERC Project 2025-03 SAR and our NASPI RTSM Task Force work related to stability/oscillation monitoring:
 - Monitoring for oscillations related to IBR/DER and wide area impacts
 - Changes to the RTA/OPA to account for IBRs and stability monitoring
 - Recognition of IBR issues, including them in assessments, and changes to NERC definitions of RTA/OPA and FAC-011 standard
- Brief correspondence was held with the NERC Project 2025-03 SAR team where there is some agreement regarding alignment with our project. It is possible that the RTSM SAR may follow project 2025-03 as a phase II initiative.

Updates and Next Steps

Updates:

Real-time Stability Monitoring (RTSM) Task Force kicked off first leadership and main team meetings in August and September

Please contact us if you are interested in participating on this task force

Up Next:

- Present at NERC SMWG in January
- Start work in three main focus areas:
 1. External Regulatory Requirement Review
 2. Existing NERC Standards Review
 3. Large System Events Review