

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Synchronized Measurement Working Group (SMWG) Update

Clifton Black, Chair, Southern Company

Kat Sico, Vice Chair, Duke Energy

Nadia Smith, NERC Coordinator

NASPI Working Group Meeting

September 24, 2025

1. Roadmap for Integrating Synchrophasors into Operations
2. CIP Implementation Guidance document for Integrating Synchrophasors into Operations
3. PMU Data Accuracy and Maintenance Manual
4. Joint NERC SMWG/NASPI Role-Based Synchrophasor Training
5. Document Review
 - A. Power Plant Model Verification (PPMV) for Inverter-Based Resources RG
 - B. Power System Oscillation Monitoring and Mitigation TRD
6. Future Meetings

Approach

The roadmap is organized into six progressive stages, each representing a logical milestone in the journey toward full integration:

1. Foundation & Awareness
2. Pilot Deployment & Infrastructure Setup
3. Application Development & Use Case Prototyping
4. Evaluation, Business Case & Executive Buy-In
5. Operationalization & Integration
6. Continuous Improvement & Innovation

- **Goal:** High level guidance for dealing with CIP related issues for practical scenarios of interest that may not be addressed or adequately addressed in the standard
 - CIP-related issues continue to be cited as major hurdle
 - Team sought to glean insights from various entities regarding CIP implementation considerations/criteria/procedures
 - SWG CIP IG sub team is trying to determine
 - The specific CIP related pain points that need to be resolved
 - The appropriate work product to meet the need(s) determined. Options include **Security Guideline**, **Technical Reference Document**, or **Whitepaper** that discusses, for example, use cases that do not require the PMUs / PMU data to be included in a CIP program.
 - Survey was developed, shared with the industry and feedback received.
 - Decision: Work product will be Whitepaper or Security Guideline **not** Implementation Guideline
 - SWG subteam and SMWG leadership will meet to finalize path forward

- **Goal:**
 - This manual aims to provide practical knowledge and tools to support engineers to ensuring high-quality synchrophasor data.
 - Provide a structured approach to identifying and resolving data quality issues in a timely and effective manner, focusing on:
 - The most frequently encountered data quality issues
 - Diagnostic procedures
 - Root causes
 - Actionable solutions
- **Status:**
 - Group of reviewers provided feedback of draft
 - Document being refined based on feedback

Vision Statement

To empower all critical utility stakeholders with tailored, role-based synchrophasor knowledge that drives effective integration, utilization, and business value realization of synchrophasor technology across the North American electric power industry.

Mission Statement

To develop and deliver comprehensive, role-specific training modules on synchrophasor technology that:

- Recognize and address the needs of all stakeholders within the utility ecosystem.
- Promote widespread adoption, collaboration, and innovation.
- Foster operational excellence, compliance, and organizational resilience.

Stakeholders addressed will include (but are not limited to):

- | | |
|--------------------------------------|--------------------------------|
| – Executive Leadership | – IT & Cybersecurity |
| – Transmission Planning & Operations | – R&D |
| – Protection & Control | – Compliance |
| – Distribution Operations | – Maintenance & Field Services |

Phase	Milestones	Timeline
Phase 1: Kickoff & Planning	Finalize TF membership, designate project manager, initial planning meeting	May- June 2025
Phase 2: Stakeholder Needs Analysis	Survey, interviews, gap assessment, validation of audience groups	June- July 2025
Phase 3: Curriculum Design	Define learning objectives, content outlines, module structure by role	June- September 2025
Phase 4: Content Development	Draft and review role-based modules, quizzes, case studies	August -December 2025
Phase 5: Pilot & Feedback	Run pilots for select stakeholder groups, collect feedback	November 2025- January 2026
Phase 6: Finalize & Publish	Incorporate feedback, finalize materials, launch certification pathways	March 2026

- Power Plant Model Verification for Inverter-Based Resources Reliability Guideline
 - Dated 2018
 - SMWG will review for continued relevance as guideline (If so, posted for 45-day comment period)
- Power System Oscillation Monitoring and Mitigation Technical Reference Document
 - Submitted February 2025
 - Endorsed by RTOS September 2025
 - Received few non-technical refinement suggestions from NERC publications
 - RSTC will post for comments pending SMWG consensus

- Call for Oscillation Events
 - Especially IBR related events
- Future Meetings
 - Thursday, September 25, 2025 | 8:00 a.m. – 4:30 p.m. Eastern | Hybrid Meeting
 - Location: EPRI's Charlotte Office - 1200 W. WT Harris Blvd Charlotte, NC (Building 3, Room 741)
 - Breakfast 8 – 9 am Eastern
 - [Registration](#) (virtual and in-person)
 - January 2026 | Virtual Meeting

A map of North America, including the United States, Canada, and Mexico. A horizontal band of varying shades of blue and grey stretches across the middle of the map, passing through the United States. The text "Questions and Answers" is centered within this band.

Questions and Answers