

Synchronized Measurement Working Group Scope

Purpose

The purpose of the NERC Synchronized Measurement Working Group (SMWG) is to provide technical guidance and support for the use of synchronized and high-resolution measurements of the bulk power system (BPS) across North America. The use of such synchronized, high-resolution measurements helps BPS planners and operators to enhance their models, situational awareness, and capabilities to assess complex electrical system interactions, identify unique system behaviors, and aid in the day-to-day roles of NERC's Registered Entities. The SMWG serves as the body of technical experts who seek to continually improve the adoption and use of new synchronized measurement technologies and leverage their capabilities to improve the reliability of the BPS.

Activities

The working group will support the development, implementation, and utilization of synchronized and high-resolution measurement systems. This work includes engineering analysis, development of new engineering techniques, and real-time tools centered on improving planning, operation, and reliability of the BPS. The SMWG is responsible for the following tasks:

- Formulate and guide the NERC vision and activities to promote the advancement of wide-area time synchronized and high-resolution measurement systems and applications, including standards where and when needed.
- Support the development and use of standardized data sharing, data quality, and data cleaning protocols and practices for time-synchronized and high-resolution measurement data.
- Support any data collection or analysis of power system performance following selected events and significant disturbances.
- Develop recommendations, guidelines, technical reference documents, and training materials to help advance the use of applications driven by time-synchronized and high-resolution measurements across the industry.
- Develop and maintain appropriate procedures and guidelines for base line power system performance analysis using time-synchronized and high-resolution measurement data.
- Provide a forum for operating entities to discuss activities and experiences related to the development, deployment, and use of measurement data for the purposes of improving reliability of the BPS.
- Coordinate with other industry organizations related to synchronized, high-resolution measurement data including the North American Synchrophasor Initiative (NASPI), Institute of Electrical and Electronics Engineers (IEEE), and International Electrotechnical Commission (IEC).

- Review and coordinate proposed new synchrophasor applications with any appropriate NERC committees to support coordinated advancement of synchronized measurement technologies to assure effectiveness and to limit duplication of efforts.
- Coordinate with other Reliability and Security Technical Committee (RSTC) groups or NERC staff for expertise on implementation, analysis, or other use of high-resolution data, as directed by the RSTC.

Deliverables

SMWG will develop guidelines, technical reports, white papers, and recommendations on the following topics:

- Ongoing review and analysis of existing and new BPS oscillation events; other technical assessments of power system reliability using synchronized measurement data.
- Enhanced operating procedures using synchronized measurement data, improved operator and real-time tools and applications.
- Innovative engineering analysis tools and applications.
- Baselining power system performance.
- Effective and efficient data sharing, data quality, and data cleaning methods.
- Design and operation of time synchronized measurement network and data architectures, leveraging other technical groups such as IEEE and NASPI.
- Use of industry technology standards (IEEE, IEC, etc.) and NERC Reliability Standards.
- Other topics as prioritized by the NERC SMWG and NERC Real Time Operating Subcommittee (RTOS) membership.

Membership

SMWG will include industry members who have technical expertise in the following areas:

- Development and deployment of high-resolution, time-synchronized measurement systems.
- Use of real-time and off-line advanced applications.
- Analysis of high-resolution disturbance data for event analysis.

The working group will consist of a chair and vice chair appointed by the RTOS leadership for one two-year term. Interested parties to the SMWG may attend the working group and otherwise act as an observer of the SMWG. The vice chair should be available to succeed the chair. Decisions will be consensus-based of the attending membership, led by the chair and NERC staff coordinator. Minority views on deliverables are recorded in any meeting minutes and shared with the RTOS and RSTC.

Reporting

The NERC SMWG reports to the NERC RTOS under the NERC RSTC. The NERC RTOS and RSTC will approve the SMWG work products. The SMWG will develop and maintain its workplan with updates managed and

approved by the NERC RSTC per the notional work plan process.¹ SMWG will coordinate with other subcommittees and working groups within the RSTC, as directed by the RTOS and RSTC, as appropriate.

Meetings

Two to four open meetings per year, as needed. Supplemental conference calls may be held to draft deliverables. Meetings may be either in-person, teleconference, or hybrid.

¹ Available here: https://www.nerc.com/comm/RSTC/Documents/RSTC%20Work%20Plan%20Notional%20Process_Aproved_Sept_2020.pdf