Control Room Solutions Task Team

Work Plan

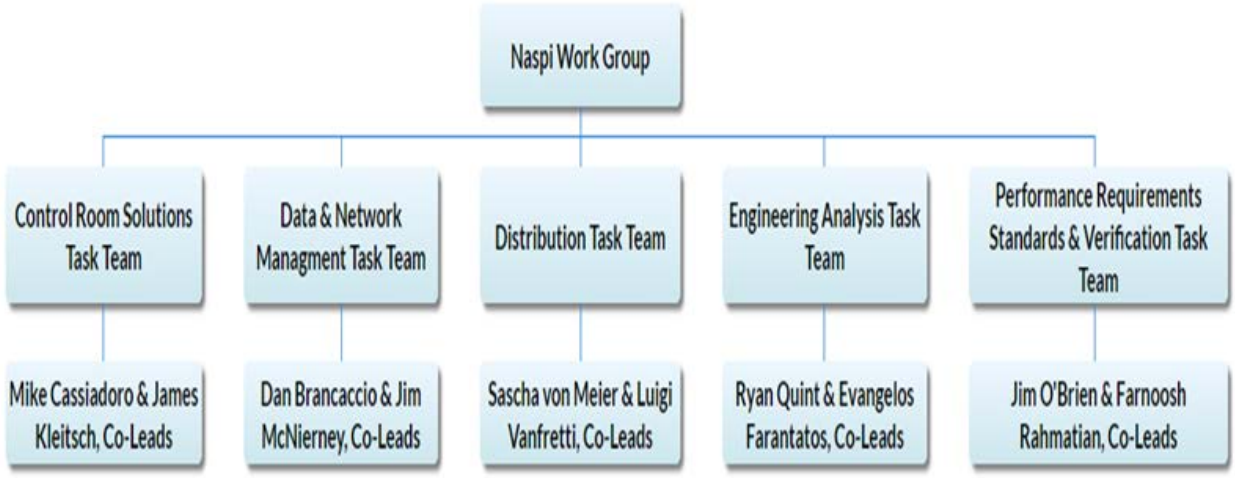
January 2018

Background

The North American Synchrophasor Initiative (NASPI) is a collaborative effort between the U.S. Department of Energy, North American Electric Reliability Corporation (NERC), and electric utilities, vendors, consultants, federal and private researchers, and academics. The NASPI mission is to improve power system reliability and visibility through wide area measurement and control. The NASPI community is working to advance the deployment and use of networked phasor measurement devices, phasor data-sharing, applications development and use, and research and analysis. Important applications today include wide-area monitoring, real-time operations, power system planning, and forensic analysis of grid disturbances.

The NASPI Control Room Solutions Task Team (CRSTT) is one of five task teams formed by the NASPI community to help advance the deployment and use of networked phasor measurement devices, phasor data-sharing, applications development and use, and research and analysis.

An overview of the NASPI Work Group structure is provided below.



1 Introduction

This document defines the CRSTT's mission, priorities and goals, and planned activities for 2018.

The CRSTT will review and update this plan annually to ensure a common understanding of the team's purpose and direction.

2 Mission Statement

This task team's mission is to work collectively with other NASPI task teams to advance the use of real-time synchrophasor applications for improving control room operations and grid reliability. This regionally diverse team of subject matter experts will share its experiences and provide advice, direction, support and guidance to NASPI stakeholders involved in the development and implementation of real-time synchrophasor applications.

3 Priorities and Goals

This team's priorities are to:

1. Identify and help to address issues that are impeding the implementation of synchrophasor-based applications in the Operations Horizon.
2. Develop documentation that defines the safety, reliability and economic benefits that synchrophasor technology provides.
3. Recognize and share industry best practices.
4. Support the design, development and delivery of synchrophasor-based application training for end users.
5. Promote operational event analysis to demonstrate the value of synchrophasor technology.

This team's goals are to:

1. Develop a series of use case summary documents that define how grid operators and electric utilities are using synchrophasor data to provide operational value.
2. Prioritize and complete the remaining focus area documents.
3. Create additional video event files for use cases and simulated events.
4. Gather operator feedback on synchrophasor-based applications (best practices).
5. Support the design, development and delivery of synchrophasor-related training for operations staff.
6. Develop a series of Lessons Learned documents related to the use of synchrophasor technology in the operations environment.

4 Planned Activities

This task team's planned activities are as follows:

4.1 Use Case Summary Documents

CRSTT members will work with grid operator and electric utility representatives to develop use case summary documents that demonstrate the various ways in which synchrophasor data is being used to provide operational value.

4.2 Focus Area Documents

CRSTT members will continue developing a series of papers to explore the following areas of interest and determine if value can be added in the near future by using Phasor Measurement Unit (PMU) data and synchrophasor-based applications: oscillation detection, system islanding detection and blackstart restoration, determining disturbance locations, voltage stability assessment, and monitoring of reactive power balance. Existing versions of these papers can be found on the CRSTT page of the NASPI website (https://www.naspi.org/crstt).

4.3 Video Event Library

CRSTT members will continue working with grid operator and electric utility representatives to build a library of video events that demonstrate the value synchrophasor data provides when analyzing events that impact the electric power system. Existing videos are posted on the CRSTT page of the NASPI website.

4.4 Industry Outreach

The CRSTT will continue to coordinate with other NASPI task teams and industry bodies to advance the deployment and use of this new technology and help gain user acceptance of synchrophasor-based applications.

CRSTT will focus its efforts on coordinating and forging working relationships with the NERC Operating Reliability Subcommittee (ORS), NERC Synchrophasor Measurement Subcommittee (SMS), WECC Joint Synchronized Information Subcommittee (JSIS), North American Transmission Forum (NATF) PMU Working Group, and PMU Subgroup of IEEE PES Cascading Failure Working Group (CFWG).