Control Room Solutions Task Team
Monthly Meeting

January 26, 2021

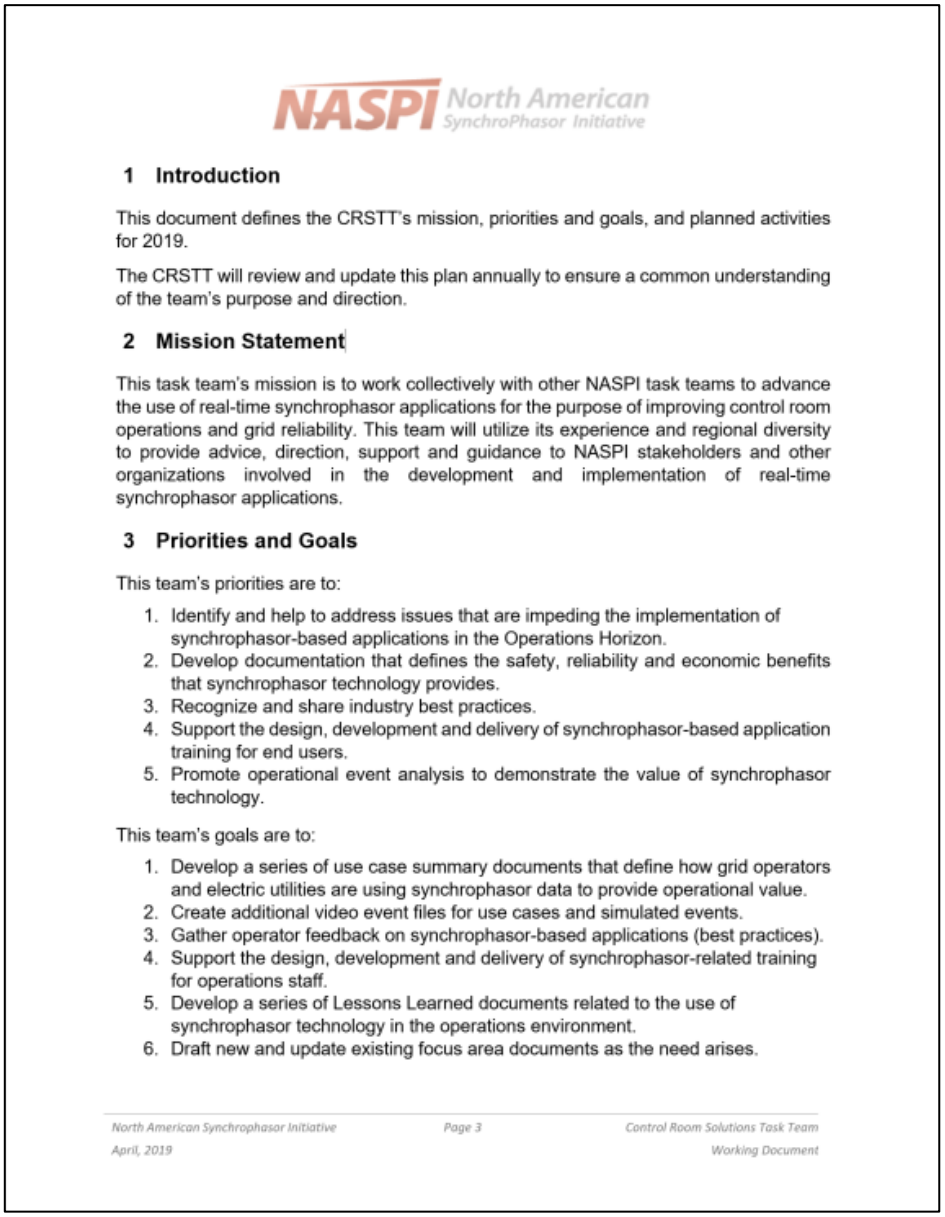
Agenda

- Introduction
- Discuss Potential Revisions to CRSTT Work Plan
- Review Topics Proposed for Operational Use Cases
- Provide Update on Time-Synched Measures Training
- Open Discussion: Purpose and Benefits of Synchrophasor Apps in Same-day and Real-time Ops Horizons
- Adjourn

CRSTT Work Plan

How should we go about reviewing and updating the CRSTT Work Plan for 2021?

Should we conduct a review via email and hold a follow-up discussion on a monthly call before finalizing the plan?



NASPI North American SynchroPhasor Initiative

1 Introduction

This document defines the CRSTT's mission, priorities and goals, and planned activities for 2019.

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 the purpose of improving control room operations and grid reliability. This team will utilize its experience and regional diversity to provide advice, direction, support and guidance to NASPI stakeholders and other organizations 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. Create additional video event files for use cases and simulated events.
3. Gather operator feedback on synchrophasor-based applications (best practices).
4. Support the design, development and delivery of synchrophasor-related training for operations staff.
5. Develop a series of Lessons Learned documents related to the use of synchrophasor technology in the operations environment.
6. Draft new and update existing focus area documents as the need arises.

Enhanced Ops Use Cases: Strategy & Approach

- Engage Industry – Collaborate with grid operators and electric utilities, vendors and others to develop cases.
- Focus on Reliability-Related Tasks – Build cases that highlight use of synchrophasor technology to perform reliability-related tasks.
- Apply Consistent Structure – Create a common framework for presenting cases.
- Present All Pertinent Info – Expand beyond sub-set of PMU data trends presented in most current cases.
- Introduce Enhanced Visualizations – Make it easier access info and understand how it can be used to inform operational decisions.

Operational Use Case Discussion

CRSTT and DisTT members would like to explore the following areas:

1. Wildfire Mitigation
2. Microgrid Control
3. Cybersecurity Awareness
4. Inertia Monitoring
5. Topology Identification

The teams are actively searching for grid operators, electric utilities and vendors that wish to engage.

Time-Synched Measures Training Update

2019: TRS and PNNL collaborated to develop a *Use of Time-Synchronized Measurements in the Real-time Operations Horizon* training course (8 CEH).

2020: TRS and PNNL began developing a *Time-Synchronized Measurements Simulation Training* course (8 CEH).

2021: TRS and PNNL to finish developing *Time-Synchronized Measurements Simulation Training* course and create a "train-the-trainer" video for interested parties.

Synchrophasor Apps in Real-Time Operations

Open Discussion: Should CRSTT and DisTT draft a paper describing the purpose and benefits of synchrophasor-based apps in the Same-day and Real-time Operations Horizons?

Synchrophasor data can be used to enhance grid reliability for both real-time operations and off-line planning applications, as listed below; this report explains the purpose and benefits of each application, assesses its readiness for use, and offers references for further information:

Real-time operations applications

- Wide-area situational awareness
- Frequency stability monitoring and trending
- Power oscillation monitoring
- Voltage monitoring and trending
- Alarming and setting system operating limits, event detection and avoidance
- Resource integration
- State estimation
- Dynamic line ratings and congestion management
- Outage restoration
- Operations planning

Planning and off-line applications

- Baselining power system performance
- Event analysis
- Static system model calibration and validation
- Dynamic system model calibration and validation
- Power plant model validation
- Load characterization
- Special protection schemes and islanding
- Primary frequency (governing) response

CRSTT – Primary Contacts

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If you want to be added to the CRSTT or DisTT email list or have questions about the NASPI website please contact teresa.carlon@pnnl.gov

Distribution Task Team
Monthly Meeting

January 26, 2021

DisTT Agenda

- Panel Proposal to SGSMA 2021
  - "Use cases and potential value of deploying PMUs at distribution systems" moderated by Panos Moutis (CMU)
  - Sascha von Meier (NASPI), Ken Martin (IEEE), Paul Pabst (ComEd), Omid Mousavi (DEPsys), Greg Zweigle (SEL)
- IEEE TF on Distribution PMU Standard (Ken Martin)
- *Forthcoming*: slide-deck for pitch of DisTT report and activities to utilities
  - Objective: follow-up on distribution PMU use case surveys (& maybe recruit DisTT members)

Panel Proposal to SGSMA 2021

- “Distribution Synchrophasors for Control Applications” by Sascha von Meier (NASPI)
- “What can phasor measurement units (PMUs) provide and what are the challenges in developing a standard for them in the distribution environment” By Ken Martin (IEEE)
- “Distribution PMU Deployment and Analytics” by Paul Pabst (ComEd)
- “Edge computing monitoring infrastructure for scalable distribution grid monitoring” by Omid Mousavi (DEPsys)
- “Distribution Time-Synchronized Measurements: Sensors and Applications” by Greg Zweigle (SEL)

Under Review by TPC of SGSMA 2021 (offered flexibility…)

IEEE TF on Distribution PMU Standard

- Current recommendation
  - Hold but…
  - Keep exploring use cases…
  - Connect with more stakeholders…
  - Recruit volunteers to work on it (probably lead in the standard WG)

Slide-deck for DisTT pitch to Utilities

- Sascha and Panos working together to launch the efforts
- Material from the latest DisTT report on Use Cases & Survey results
- Aiming for a follow-up survey to add value to the previous efforts