



Control Room Solutions Task Team (CRSTT) Minutes

Co-leads, Michael Cassiadoro (mcassiadoro@totalreliabilitysolutions.com) and
Jim Kleitsch (jkleitsch@atcllc.com)

Teresa Carlon, NASPI web site and listserv contact (teresa.carlon@pnnl.gov)

Email list address: naspi-taskteam-controlroom@lyris.pnnl.gov

March 20, 2019

Attendees – See below. Call led by Mike.

Action Items

- Mike will be updating the CRSTT Work Plan document and distributed to the CRSTT for comment. The latest draft was circulated around January 2018.
- If you plan to attend the [NASPI Work Group meeting in San Diego](#), please register and book your hotel before the group rate expires.
- NDR to reach out to the contacts for the Phase Angle Monitoring table and retrieve updated information if available.
- How has PMU data been used to support decision making? Mike to go back through the presentations over the last two-three years on the NASPI website and try to identify more use cases that the CRSTT may not have captured. Teresa can help with this effort.
- Mike needs help embedding the event files into a PowerPoint – Teresa will help Mike with this effort.
- “Enhanced black start restoration system” application using the best of both worlds (SCADA and pmu data) to help users. Mike will reach out to Krish.

New Business

- Eight operational scenarios to demonstrate how PMU data was used to support decision making. Mike to go back through the presentations over the last two-three years on the NASPI website and try to identify more use cases that the CRSTT may not have captured. Pull the information together in a spreadsheet. (Mike, take a look at this [PDF](#)).
-

On-going Business

- Reminded attended of the recent CRSTT publications.
- No work done on the “Using Synchrophasor Data to Monitor Reactive Power Balancing”; remains on to-do-list.
- Phase angle monitoring table will be updated by Mike C. and NDR. NDR will contact previous submitters and ask them if they have any information to be updated in the report.
- Continue building library of events to demonstrate value PMU data provides when analyzing abnormal events and disturbance. If your organization needs help with formatting your video, please let us know we’d be happy to help.
- CRSTT breakout session will be during the actual Work Group meeting, April 17, 2019, as opposed to afterwards. What topics would you like to see addressed during this 30 minutes? Krish asserted the real-time solutions in control rooms using PMU data. Enhanced state estimation would be good to cover. Mike added he would like to have more coordination with the DisTT.
- CRSTT wrote a paper, [Using Synchrophasor Data during System Islanding Events and Blackstart Restoration](#), is anyone familiar with new technologies specific to system restoration? Please let Mike know if you do. Krish asserted they have grid stability application; “enhanced black start restoration

system” application using the best of both worlds (SCADA and pmu data) to help users. Mike will reach out to Krish.

- Total Reliability Solutions (TRS) will be collaborating with PNNL to develop a Use of Time-Synchronized Measurements in the Real-time Ops Horizon training course. The base materials will be made available to the public upon completion. Intended audience is RC, BA, and TOP System Operators tasked with monitoring and controlling the Bulk Electric System. “Train the Trainer” class will be held at PNNL in late spring or early summer and Operator Trainer class in June 2019 (TBD). Eric Andersen (eric.andersen@pnnl.gov) is PNNL’s point-of-contact.

CRSTT Goals

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

Next conference call: May 15, 2019 at 12:30pm PT / 3:30pm ET. Hope you to see you in San Diego April 15-17, 2019 at the NASPI Work Group meeting.

Attendees

James Kleitsch
Frank Tuffner
Greg Zweigle
Junbo Zhao
Krish Srinivasan (Radhakrishnan Srinivasan)
Mike Cassiadoro
Sarma (NDR) Nuthalapati
Teresa Carlon
Xluo (Xiaochuan Luo)

Reference Documents (posted on the NASPI CRSTT web page).

[NASPI CRSTT web page](#) (Videos, use cases, reference documents, and call notes).

[Using Synchrophasor Data to Determine Disturbance Location](#)
[Using Synchrophasor Data for Oscillation Detection](#)
[Using Synchrophasor Data for Phase Angle Monitoring](#)
[Using Synchrophasor Data for Voltage Stability Assessment](#)
[Using Synchrophasor Data during System Islanding Events and Blackstart Restoration](#)
[Using Synchrophasor Data to Diagnose Equipment Health and Misoperations*](#)
[EA001 - Using Synchrophasor Data to Analyze Fault Event Causes](#)
[EA002 - Using Synchrophasor Data to Analyze Concurrent Fault Events](#)
[EA003 - Using Synchrophasor Data to Identify a Failing Potential Transformer](#)
[EA004 - Using Synchrophasor Data to Identify System Voltage Oscillations](#)
[EA005 - Using Synchrophasor Data to Analyze HVDC and SVC Response to Events](#)
[EA006 - Post-Event Analysis of a Compound Event Using Synchrophasor Data](#)

Use Case: GEN-03 – Automatic Voltage Regulator (AVR) Malfunction
Use Case: GEN-05 – Nuclear Plant Voltage Oscillations

* [Event Summary Table](#) – supplement to the Using Synchrophasor Data to Diagnose Equipment Health and Misoperations paper.