

Performance Requirements, Standards & Verification Task Team

- Task Team Co-Leaders:
 - Jim O'Brien, Duke Energy
 - Farnoosh Rahmatian, NuGrid Power
- Task Team Support:
 - Teresa Carlon, PNNL

PRSVTT – 10/29/2019

IEEE Updates

- C37.247 PDC Standard– Vasudev Gharpure
 - The PDC standard (C37.247) was published last month (9/2019)
 - A phasor data concentrator (PDC) is usually understood to be a device (box in a substation).

PRSVTT – 10/29/2019

- C37.247 PDC Standard (contued)
- This standard defines it as a set of functions that may be performed on synchrophasor data.
- These functions primarily combine PMU data from multiple sources for use by application functions.
- These functions may reside either in a standalone box, or as a software application on a server/ computer.

PRSVTT – 10/29/2019

- C37.247 PDC Standard (continued)
- The PDC guide (C37.244, published 2013) described many functions that a PDC may perform.
- This standard builds on the guide.
- Every PDC need not perform every function described in the guide. The standard defines a minimum set of functions that a PDC must perform. Manufacturers are free to add a wider range of functions and enhancements.

PRSVTT – 10/29/2019

- C37.247 PDC Standard (continued)
 - 118.2 is the most commonly used synchrophasor message format. This standard relied on it to a considerable extent, but was written independent of it as far as possible.
 - Functions have to be performed regardless of data format etc.
 - Cybersecurity is discussed, and while its importance is acknowledged in the overall system, it was beyond the scope of this standard, which is viewed as specific to PDC functions.

PRSVTT – 10/29/2019

IEEE Updates

- C37.242 Guide for Synchronization, Calibration, Testing, and Installation of Phasor Measurement Units (PMUs) for Power System Protection and Control – Allen Goldstein
- C37.118.2 Standard for Synchrophasor Data Transfer for Power Systems – Vasudev Gharpure
- P2664 Standard for Streaming Telemetry Transport Protocol – Ken Martin

PRSVTT– 10/29/2019

Ongoing Work

1. Analyzing PMU performance requirements for Synchrophasor based Control Applications – Pratim Kundu
2. Survey of instrument transformers connected to installed PMUs – Farnoosh Rahmatian

PRSVTT– 10/29/2019

- Discussion / Ideas for new projects
 - Collaboration with IEEE PES PSRC on a standard or guide on performance requirements for distribution PMUs (working closely with DistTT)
 - Looking into performance of Linear State Estimators (LSE) during switching and transient conditions.

