Distribution Synchrophasor Applications Questionnaire
DRAFT 8/25/19

The purpose of this questionnaire is to share insights with the NASPI Distribution Task Team (DisTT) about emerging applications and use cases for synchronized measurement data. We are interested in any of the following:

- ✓ synchrophasor data (i.e., 30-120 Hz frames reporting rms magnitudes and phase angles at various accuracies)
- ✓ time-synchronized data (e.g., rms magnitudes time stamped to within a fraction of a second, at various reporting rates)
- ✓ point-on-wave data (e.g. time domain waveform with kHz sampling, time stamped, streaming or archival)

Specifically, we want to learn about opportunities and concerns related to real-time operations of distribution systems.

1. What are the most challenging events on the distribution network that synchrophasor data would assist you in addressing?
2. What Fire Risk Mitigation Strategies are employed by your utility? Can synchrophasor data support decision making when employing these strategies? For example:
    - Public Safety Power Shutoff?
    - Falling / Broken Conductor?
    - High impedance arc-fault detection?
    - Optical recognition of point-source fires?
3. Are distributed energy resources (PV, Battery Storage) posing challenges in operating the distribution system?
    - If so, what specifically concerns you, and what relevant information might be provided by synchronized measurements?
4. Is there value added in validating distribution network models with empirical data derived from synchrophasors?
    - If so, what types of system configurations are highest priority (e.g. circuits with lots of industrial load or renewables)?
    - What specific aspects of network models are most important to validate (e.g. impedances, phase assignment, voltage regulation control logic, load models)?
5. How is equipment health currently being monitored for Condition-Based Maintenance (CBM)?
    - Would synchrophasor data be useful to help identify local events associated with equipment stress?
6. Does your utility employ microgrid solutions?
    - Would synchrophasor data assist in the deployment and enabling/disabling of such resources for use on the distribution network?