SMS Update
NERC Synchronized Measurement Subcommittee (SMS)

Ryan D. Quint, Ph.D., P.E.
Staff Coordinator, NERC SMS, NERC SAMS
NASPI Meeting
October 15, 2015
• Approved by PC – December 2012
• Dormant until recently
• Formation Announcement – July 2
• First Meeting – September 2-3 in Golden, CO (NREL)
• Next Meeting – November 3-5 in San Diego, CA (SDG&E)
• Roster – 90+ (50/50 split vendors/operating entities)
• First meeting – 20+ in-person, 25+ on phone

• Strong industry support for efforts underway!
  ▪ NERC PC and OC very interested in SMS moving forward
• SMS brainstormed key tasks to tackle first and developed tentative timelines for those deliverables

<table>
<thead>
<tr>
<th>#</th>
<th>Task</th>
<th>Frequency</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PMU Placement Guidelines</td>
<td>Once</td>
<td>Q2 2016</td>
</tr>
<tr>
<td>2</td>
<td>SW Outage Recommendation 27: Angular Separation</td>
<td>Once</td>
<td>Q2 2016</td>
</tr>
<tr>
<td>3</td>
<td>Utilizing PMUs for NERC Reliability Standards</td>
<td>Once</td>
<td>Q3 2016</td>
</tr>
<tr>
<td>4</td>
<td>Model Verification Using PMUs</td>
<td>Once</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>5</td>
<td>Technical Workshop on PMU Utilization</td>
<td>Once</td>
<td>Q2 2016</td>
</tr>
<tr>
<td>6</td>
<td>PMUs for Cascading Outages</td>
<td>Once</td>
<td>Q2 2017</td>
</tr>
<tr>
<td>7</td>
<td>Monitoring IEEE C37.118 Certification Process</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
<tr>
<td>8</td>
<td>Monitor Operator Training Practices</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
</tbody>
</table>
• North American Synchrophasor Initiative (NASPI)
  ▪ Driving light of technology advancement for synchronized technology
• WECC Joint Synchronized Information Subcommittee (JSIS)
  ▪ High value application development for West, seek to build off JSIS efforts and share practices amongst interconnections
• IEEE/IEC
  ▪ Coordinate with industry standards development and certification
• NERC Registered Entities
• Vendors, Consultants, Solution Providers
  ▪ Bring together development expertise and utility members
• Other NERC Subcommittees (OC & PC)
• Practitioner-focused:
  ▪ Reliability Guidelines – share practices to bring value to operating entities
  ▪ Act as SMEs for PMU technology within NERC
• Participation from operating entity SMEs requested (full coverage)
  ▪ West – Eastern Side (WAPA, Excel, APS)
  ▪ Midwest – AEP, ComEd, ITC, OG&E
  ▪ Southeast – Duke Progress
  ▪ Canada – Maritimes, Alberta, Sask Power
• Feel free to reach out to Ryan Quint (ryan.quint@nerc.net.), SMS Staff Coordinator if interested or with any questions
Questions and Answers