



North American SynchroPhasor Initiative Working Group Meeting October 14-15, 2015

**Westin Michigan Avenue Hotel
909 North Michigan Avenue
Chicago, Illinois 60611
312-649-6409**

This NASPI work group meeting will feature many user success stories and synchrophasor technology solutions. The meeting will include the roll-out of the new Synchrophasor Starter Kit and a technical session on the use of PMU data for forensic analysis of the April 2015 Washington DC-area blackout.



There will be a \$350 registration fee to cover meeting costs, refreshments and lunch on the two meeting days; the fee for students is \$75. **There will be a late fee of \$100 added for registrations on or after September 26.** The registration link is [here](#).

We will be meeting at the Westin Michigan Avenue in Chicago, Illinois. Here is the link for [hotel reservations](#). This hotel is not offering government rates but several hotels within a few blocks are offering rooms at or below the federal room rate.


CIGRE (the International Council on Large Electric Systems) is holding the Grid of the Future conference at the Westin Michigan Avenue on October 11-13, 2015. NASPI and CIGRE have worked to coordinate our agendas -- CIGRE will offer a tutorial on synchrophasor technology, taught by NASPI community experts, on Sunday afternoon, October 11, and a plenary session on synchrophasor technology on Tuesday afternoon, October 13. If you are interested in these sessions, here's the [CIGRE registration link](#).

Final Agenda

Wednesday, October 14, 2015		
7:00 – 8:00 am	Registration and networking in Great Lakes Grand Ballroom Foyer Breakfast refreshments in Michigan Ballroom Work Group meeting in Great Lakes Grand Ballroom	
8:00 – 8:10 am	Welcome, introductions, and logistics review	Jeff Dagle (PNNL) Alison Silverstein (NASPI)
8:10 – 8:25 am	Welcoming keynote	Tom Leeming (Commonwealth Edison)
8:25 – 8:40 am	DOE intro	Doug Hollett (DOE)
8:40 – 9:00 am	The NASPI Awards	Doug Hollett (DOE) Alison Silverstein (NASPI)

9:00 – 10:30 am	<p>Technical session 1 – The Synchrophasor Starter Kit (10 minutes each)</p> <ul style="list-style-type: none"> • Synchrophasor data applications (Alison Silverstein, NASPI) • Meeting NERC reliability standards (Ryan Quint, NERC) • Relevant technical standards (Farnoosh Rahmatian, NuGrid Power) • PMU placement and installation (Kevin Jones, Dominion Virginia Power) • Minimal communications network design (Jim McNierney, NYISO) • Model validation (Dmitry Kosterev, BPA) • Data quality (Ken Martin, EPG)
10:30 – 10:45 am	<p>Break -- refreshments and networking in Great Lakes Grand Ballroom Foyer (sponsored by PingThings)</p> 
10:45 – 11:00 am	<p>Synchrophasor value proposition (Mark Weimar & Joe Peterson, PNNL, & Alison Silverstein, NASPI)</p>
11:00 am – 12:10 pm	<p>User success stories (1)</p> <ul style="list-style-type: none"> • POSOCO – Experience using synchrophasors in synchronization and operation of large regional grids in India – Vivek Pandey, Chandan Kumar, Srinivas Chitturi (POSOCO) • CENACE – Successful deployment experience of a synchrophasor-based System Integrity Protection Scheme – Diego Echeverria, Verónica Flores & Roberto Barba – Operador Nacional de Electricidad (CENACE) and David Elizondo, Solveig Ward & Yi Hu (Quanta Technology) • TenneT TSO, Germany – Operational experience with synchrophasors at a national transmission operations center – Stefan Steger (TenneT TSO), Markus Wache (Siemens, Germany) & Roy Moxley (Siemens, USA)
12:10 – 1:10 pm	<p>Lunch in Michigan Ballroom (sponsored by IEEE Standards Association)</p> 
1:10 – 3:20 pm	<p>More user success stories (2)</p> <ul style="list-style-type: none"> • Commonwealth Edison – Synchrophasor at ComEd today – Dave Schooley (ComEd) & Jared Bestbreuer (SEL) • Peak RC – Integrated visualization of the Western Interconnection – Hongming Zhang, Matt Veghte & Seong Choi (Peak Reliability) • Dominion Virginia Power – Use of synchrophasors and FNET at Dominion Virginia Power – Kyle Thomas (DVP) • Hydro Quebec – Wide-area and local voltage control of dynamic shunt compensation using synchrophasors – Matthieu Perron (Hydro Quebec IREQ Research Institute) • Bonneville Power Administration – Showing the source of a frequency disturbance using PMU data – Nick Leitschuh (BPA) • SDG&E – Synchrophasor benefits in grid operations and engineering at SDG&E – Tariq Rahman (SDG&E) & Jared Bestbreuer (Schweitzer Engineering Labs)
3:20 – 3:50 pm	<p>Break and refreshments in Great Lakes Grand Ballroom Foyer</p>

3:50 – 6:00 pm	Task Team meetings
	<p>Control Room Solutions Task Team in Great Lakes Ballroom East</p> <ul style="list-style-type: none"> • Commonwealth Edison – Synchrophasor research and education at ComEd – Dave Schooley (ComEd) • Peak – Peak RC experience with forced oscillation detection – James O'Brien (Peak RC) • PJM -- PMU Simulator tool for operator training on oscillation detection – Emanuel Bernabeu (PJM Interconnection) • Peak -- PRSP Update on control room use cases – Scott Downey (Peak RC) • CRSTT business <ul style="list-style-type: none"> ○ CRSTT Phase Angle Monitoring white paper ○ Other white papers
	<p>Data & Network Management Task Team in Ontario Room</p> <ul style="list-style-type: none"> • Peak RC – Delivering synchrophasor data using the Secure Information Exchange Gateway and Gateway Exchange Protocol – Dan Brancaccio (Peak RC) • Hitachi – Efficient PMU data analysis through high performance data management platform – Bo Lucy Yang (Hitachi) • NASPI C37.118 Data quality flags task force report – Ryan Nice (PJM Interconnection) • Schneider Electric – Increase power grid stability and reliability with enterprise historians for synchrophasor data management – Louis Guiamatsia (Schneider Electric) • Briefing on PNNL studies – “NASPInet 2.0” and “Security best practices for mission-critical synchrophasor systems” • DNMTT Network Systems Task Force • DNMTT business
	<p>Engineering Analysis Task Team in Huron AB Rooms</p> <ul style="list-style-type: none"> • First experience with application of PMUs in a 50 kV distribution grid – Dr.ir. Gert Rietveld, VSL, The Netherlands • Real-time monitoring of active distribution network using PMUs: requirements and real test cases – Dr. Mario Paolone & Paolo Romano (Swiss Federal Institute of Technology) • PMU application for power flow monitoring in distribution systems – Hashem Mortazavi & Maarouf Saad (École de Technologies Supérieure, Montreal) • Advanced use of PMU data for microgrid control at IIT/Bronzeville – Mohammad Shahidehpour (IIT), Shay Bahramirad (ComEd) & Charles Wells (OSIsoft) • NASPI Synchrophasor System Protection Task Force report – Matt Rhodes (Salt River Project) • NERC project to use synchrophasor data and frequency response metrics to understand system inertia trends and frequency response – Ryan Quint (NERC) • EATT business

	<p>Performance Requirements, Standards & Verification Task Team in Great Lakes Ballroom West</p> <ul style="list-style-type: none"> • UCSD – Event detection using complex phasor data – Raymond de Calafon (UCSD) & Charles Wells (OSIsoft) • Real-time phasor simulation test-bed for secondary voltage control of power grids using wide-area measurements – Arvin Morattab, Oussima Akhrif & Maarouf Saad (École de Technologies Supérieure, Montreal) • In-field testing and validation of synchrophasor-based Remedial Action Scheme – A. Malikeswaran, P. Banerjee, A Srivastava, D. Bakken & P. Panciatici (Washington State University) • PRSVTT business
<p>6:00 – 8:00 pm</p>	<p>Reception in Michigan Ballroom (sponsored by Alstom Grid)</p> <p style="text-align: center;"></p> <p>Exhibitors:</p> <ul style="list-style-type: none"> • Alstom Grid • Clemson University -- NSF RISE Center • ELPROS Elektronski • ERLphase Power Technologies • Fluke Corp. • IEEE Standards Association & Consumers Energy Laboratory Services • National Instruments • Opal-RT Technologies • OSIsoft LLC • RTDS Technologies • Satelles, Inc. • Schweitzer Engineering Laboratory • SISCO Systems Integration Specialists • V&R Energy • Vizimax

Thursday, October 15, 2015

7:30 - 8:00 am	Refreshments in Michigan Ballroom Networking in Great Lakes Grand Ballroom Foyer Work Group meeting in Great Lakes Grand Ballroom
8:00 - 8:45 am	Task Team Report-outs <ul style="list-style-type: none"> • CRSTT • DNMTT • EATT • PRSVTT • WECC Joint Synchronized Information Subcommittee • NERC Synchronized Measurements Subcommittee
8:45 - 9:25 am	Washington DC Disturbance analysis – Bob Cummings (NERC)
9:25 - 10:30 am	DOE FOA 970 awards <ul style="list-style-type: none"> • Peak Reliability • Burns & McDonnell Engineering Company, Inc. • Quanta Technology, LLC • Electric Power Group, LLC • Grid Protection Alliance, Inc. • Hawaiian Electric Company
10:30 - 10:45 am	Break and refreshments in Great Lakes Grand Ballroom Foyer (sponsored by OSIsoft) <div style="text-align: center;">  </div>
10:45 – 12:05 pm	User success stories (3) <ul style="list-style-type: none"> • MISO – Adaptive estimation of generation loss and relative system inertia based on synchrophasor measurements – Terry Bilke (MISO) • SCE – Voltage and VAR control of SCE transmission system using synchrophasors – Backer Abu-Jaradeh (SCE) & Mani Venkatasubramanian (WSU-Pullman) • ISO-NE -- Oscillation detection and analysis – David Bertagnolli (ISO-NE) & Jiahui Guo & Yilu Liu (University of Tennessee, Knoxville) • Peak RC – Peak’s experience of implementing the V&R Voltage Security Analysis tool for near real-term IROLs monitoring in the Western Interconnection – Hongming Zhang (Peak RC)
12:05 – 1:10 pm	Lunch in Michigan Ballroom

1:10 – 3:30 pm	<p>User success stories (4)</p> <ul style="list-style-type: none"> • ERCOT – Next steps – taking synchrophasor technology to ERCOT operators – Sarma Nuthalapati, Bill Blevins, Patrick Gravois, Sidharth Rajagopalan, Wei Liu & Isabel Flores (ERCOT) & Kris Koellner (LCRA) • Peak RC – PRSP update – building grid operator monitoring and control assistant based on synchrophasor data – Jeanne Bullion (PEAK RC) • NERC – Use of synchronized measurement data for frequency response standard – Ryan Quint (NERC), Dao Zhou (University of Tennessee) & Pavel Etingov (PNNL) • PSE&G – Achieving synchrophasor data availability targets – Zachary Harding & Ramtin Pourmand (PSE&G) • Peak – Validating real-time operations model with PMUs – a step toward dynamic assessments of SOLs in the Western Interconnection – Slaven Kincic & Hongming Zhang (Peak Reliability), Brian Thomas (GE Consulting), Dmitry Kosterev (BPA) & Donald Davies (WECC)
3:30 - 4:30 pm	<p>Updates and technical extras</p> <ul style="list-style-type: none"> • NASPI EATT Synchrophasor Protection Task Force Survey Report – Matthew Rhodes (Salt River Project) • IEEE Cascading Failure Working Group -- Marianna Vaiman (V&R Energy) & Milorad Papic (Idaho Power) • PMU conformance testing update – Ravi Subramaniam (IEEE Standards Assn) • Beginning PNNL studies – cyber-security for synchrophasor networks and NASPInet 2.0 – David McKinnon (PNNL) • Clemson National Science Foundation RISE Center – Kumar Venyagamoorthy (Clemson)
4:30 pm	Meeting adjourns