

**Southwest Power Pool, Inc.
OPERATING RELIABILITY WORKING GROUP**

**Net Conference
April 7, 2016 8:30 - 12:00 PM**

• Action Items and Voting Record •

1. SPP to discuss with Equinox about a CROW reactive device auto approve enhancement.
2. Redline the Communications Protocol document to include operator instructions from the TOP and GOP and return to ORWG.
3. SPP will host a meeting for education on regulation clearing, deployment, and overall response by the end of the year.

Consent Agenda

Ron Gunderson (Nebraska Public Power District) moved to approve the consent agenda and Steve Haun (Lincoln Electric System) seconded the motion. The motion was approved without opposition or abstention.

RR159 Alignment of Outage Coordination Methodology

Ron Gunderson (Nebraska Public Power District) moved to approve RR159 Alignment of Outage Coordination Methodology, and Darrel Yohnk (ITC Holdings) seconded the motion. The motion was approved without opposition or abstention.

Present the WIS phase two scope to ORWG

Kyle McMenamin (Xcel Energy) moved to endorse the general direction of the Wind Integration Study Phase 2 scope as modified, and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion was approved without opposition or abstention.

Synchrophasor Strike Team Charter

Bryn Wilson (Oklahoma Gas and Electric Co.) moved to approve the SPP Synchrophasor Strike Team charter as modified and have the SPP Synchrophasor Strike Team report to ORWG. Dennis Sauriol (American Electric Power) seconded the motion, and the motion was approved without opposition or abstention.

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• M I N U T E S •

Administrative Items / Attendance / Agenda Review

Chairman Allen Klassen (Westar Energy, Inc.) opened the meeting at 8:33AM on 4/07/2016. Jason Tanner (Southwest Power Pool) called attendance. Allen Klassen reviewed the agenda, and noted the approval items that would require action. Casey Cathey (Southwest Power Pool) suggested adding two agenda items (Regulation Reduction Requirement, and Synchronphasor Strike Team scope)

Consent Agenda

Casey Cathey (Southwest Power Pool) discussed the consent agenda items, which included the March 2-3, 2016 ORWG Meeting Minutes, RR 148 Update to Business Practice 2150, RR 149 Update to Business Practice 6150, and RR 150 Update to Business Practice 4300.

Ron Gunderson (Nebraska Public Power District) moved to approve the consent agenda and Steve Haun (Lincoln Electric System) seconded the motion. The motion was approved without opposition or abstention.

Liaison Reports

a. Capacity Deficiency Load Shed Test Results.

Karen Thomas (Southwest Power Pool) discussed the results of the Capacity Deficiency Load Shed Test. Karen stated that 8 TOPs of 22 were contacted for 83MWs and the contacted TOPs responded with simulated amounts totaling 98MWs. Karen stated that the next test to be performed will include all 22 participants and will occur on 5/5/2016. Fred Myers (Empire District Electric Company) requested a test schedule, and Karen agreed to post schedule once dates approved. Karen also stated that the current plan contains test every 7 weeks.

b. Voltage Task Force Update

Mark Eastwood (City Utilities of Springfield) provided an update to the activities occurring at the Voltage Task Force. Mark stated that the Voltage task force met on March 31, 2016 and discussed the charter. Mark stated that the group members shared common interest, and stated that the VTF is interested in planning models vs. operational models/real time results, developing a stream-lined process to advance needed projects, and evaluating Generation Interconnection agreement language. Mark commented that the VTF will host a face to face meeting in Dallas, TX at the AEP offices on April 27th and 28th where PowerTech Labs and GE will give presentations. Mark stated the group will also discuss Modeling Techniques and Wind Study Results, WIS Phase 2 Voltage Requirements, Modeling Unit VAR Capability Curves, and Transformer Tap Changer Settings.

Agenda Item 7 – RR159 Alignment of Outage Coordination Methodology

Will Tootle (Southwest Power Pool) discussed RR159 Alignment of Outage Coordination Methodology. Will stated that the RR will remove outage reporting and coordination language and add a reference that each TOP, GOP, and BA shall perform the functions described in OP-2 Outage Coordination Methodology. The group questioned if reactive devices being added to Crow, and Neil Robertson (Southwest Power Pool) stated they are, but those devices do not require being implemented. Neil stated that if the group would like to move in the direction of implementing reactive devices SPP could look into it. Neil stated that previously all reactive devices were communicated through e-mail, and now we are working to include them in CROW as informational tickets. Neil stated that currently the models cannot handle reactive outages, and if the membership believes this is an area of value then SPP could work toward model enhancements to include reactive outages.

Action Item: SPP to discuss with Equinox about a CROW reactive device auto approve enhancement.

Ron Gunderson (Nebraska Public Power District) moved to approve RR159 Alignment of Outage Coordination Methodology, and Darrel Yohnk (ITC Holdings) seconded the motion. The motion was approved without opposition or abstention.

Agenda Item 8 – Present the WIS phase two scope to ORWG

Jason Tanner (Southwest Power Pool) presented the Wind Integration Phase 2 Scope to ORWG. Jason discussed the need to perform a transient stability analysis for the 2017 spring season and assess the 30%, 45%, and 60% wind cases. Jason also discussed the need for a seasonal voltage stability analysis for 2017 and 2021. Jason stated that in this analysis the study would perform a comparison between Thermal and Voltage constraints and determine the most limiting Voltage Stability or Thermal constraints, while considering both Operations vs planning models. Jason also discusses the proposed load pocket analysis, and Ron Gunderson (Nebraska Public Power District) recommended adjusting the central Nebraska to eastern Nebraska, which would include Lincoln, Omaha, Grand Island, and Hastings. Jim Useldinger (South Central MCN) recommended accessing the loss of large wind pockets during high wind penetration where thermal resources are offline. Jason suggested that was a great idea and is something that could be assessed either during the phase 2 or in a future study. Allen Klassen (Westar Energy) stated that study scope should go before the TWG since many of the items presented in the scope are planning related.

Kyle McMenamain (Xcel Energy) moved to endorse the general direction of the Wind Integration Study Phase 2 scope as modified, and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion was approved without opposition or abstention.

Agenda Item 9 – Impact Assessment for Unit Commitments over ICCP instead of XML.

Tim Miller (Southwest Power Pool) discussed commitment signals over ICCP. Tim explained the background, purpose, summary, and impact assessment to determine if ICCP could be used to supply MPs with commitment signals in lieu of XML. Tim stated that SPP operates two independent ICCP nodes that communicate near-term data between SPP and its members. Tim stated that Interest for this process was spurred by discussions of upcoming NERC CIP standard changes, and ICCP as a solution for commitment instructions is possible but unwieldy. Casey Cathey (Southwest Power Pool) stated that SPP

is not currently pursuing unit commitments over ICCP instead of XML, but would support the membership should a member elect to present a revision request pursuing Unit Commitments over ICCP instead of XML. Ron Gunderson (Nebraska Public Power District) stated that he supports not pursuing this effort.

Agenda Item 10 – COM-002 Operator Communications.

CJ Brown (Southwest Power Pool) presented the COM-002 Operator Communications Protocol. CJ suggested that the document does not address the TOP and GOP communications to SPP, and is concerned for the SPP operator to know when they are receiving an Operating Instruction from the TOP or GOP. Ron Gunderson (Nebraska Public Power District) asked if the SPP compliance department has offered an opinion. CJ stated that SPP compliance advised that it would be up to the TOP and GOP to make the determination on what is an Operating Instruction when communicating to SPP from the TOP or GOP. CJ gave an example that SPP does not consider resource overrides Operating Instructions, and suggested that a list of what is considered Operating Instructions may need to be created. Ron stated that if a list is created he believes it should stay very close to the NERC standards.

Action Item: Redline the Communications Protocol document to include operator instructions from the TOP and GOP and return to ORWG.

Agenda Item 11 – M2M flowgates causing large power swings and oscillation.

This item was tabled for future ORWG meeting.

Agenda Item 12 – Restoration Plan Project.

Dan Epperson (Southwest Power Pool) presented the restoration plan project, and stated the SPP is working with the University of Oklahoma to utilize custom software to validate individual restoration plans. Dan stated that each TOPs restoration plan will be analyzed and improvement recommendations will be made if necessary. Dan estimated that the review would take around three to four months to complete. Dan stated that through this effort we will significantly increase awareness and responsiveness following a partial or total blackout. Concerns were raised about the plans being in the hands of the University due to the potential risk that the restoration plans could be made public. Casey Cathey stated that we will discuss with legal and request approval from individual TOPs before submitting the restoration plans to the University of Oklahoma.

Agenda Item 13 – Summer Assessment Sensitivity Review.

This item was tabled for future ORWG meeting.

Agenda Item 14 – Review of Current Secure Documents.

This item was tabled for future ORWG meeting.

Agenda Item 15 – Public Appeals.

This item was tabled for future ORWG meeting.

Agenda Item 16 – SPP Reliability Communication Tool Project.

This item was tabled for future ORWG meeting.

Agenda Item 17 – Other Items

a. Regulation Requirement Reductions

Daniel Baker (Southwest Power Pool) explained the regulation requirement procedure methodology and stated that Regulation Up and Regulation Down requirements are calculated separately, using four components Load Magnitude, Load Variability, Intermittent Resource Magnitude, and Intermittent Resource Variability. Daniel presented the current settings for the components and explained the 1 year averages for regulation. Daniel stated that 95% of the time we only deploy 52% of regulation up and 54% of the time we deploy regulation down. Daniel explained the cost savings and showed the weekly averages and daily results. Daniel proposed a regulation reduction of 20%.

Action Item: SPP will host a meeting for education on regulation clearing, deployment, and overall response by the end of the year.

b. Synchrophasor Strike Team Charter

Casey Cathey (Southwest Power Pool) presented the draft charter of the SPP Synchrophasor Strike Team. Casey explained the intent of the strike team and what PMUs could provide. Casey stated that the strike team would share best practices with respect to existing and planned PMU deployments, as well as related synchrophasor applications, which need to be considered for broader application across the SPP footprint. The SPP Synchrophasor Strike Team would develop a business case including a roadmap for PMU deployments and synchrophasor applications to be used by SPP members. Casey asked if we could house the strike team under ORWG. The ORWG suggested making a modification to the charter to include TWG along with SPCWG as working group with oversight.

Bryn Wilson (Oklahoma Gas and Electric Co.) moved to approve the SPP Synchrophasor Strike Team charter as modified and have the SPP Synchrophasor Strike Team report to ORWG. Dennis Sauriol (American Electric Power) seconded the motion, and the motion was approved without opposition or abstention.

Agenda Item 18 – Meeting Schedule

- a. 5/5/2016 WebEx (Thurs) 0830-1200
- b. 5/31-6/1/2016 Face-to-Face (Tampa Bay, FL; FRCC offices) - CONFIRMED
- c. 7/7/2016 WebEx (Thurs) 0830-1200
- d. 8/4/2016 WebEx (Thurs) 0830-1200
- e. 8/31-9/1/2016 Face-to-Face (Little Rock, Arkansas) - CONFIRMED
- f. 10/6/2016 WebEx (Thurs) 0830-1200
- g. 11/3/2016 WebEx (Thurs) 0830-1200
- h. 12/1/2016 WebEx (Thurs) 0830-1200

Agenda Item 19 – Summary of Action Items

See Page 1 Action Item list.

Agenda Item 20 – Adjourn

Chairman Allen Klassen (Westar Energy, Inc.) adjourned the ORWG at 12:06 PM (CST).

Respectfully Submitted,

Casey Cathey
Secretary



**Operating Reliability Working Group
Meeting Attendance: 4/07/2016
M=Member, G=Guest, S=SPP Staff, P= Proxy**



	Name	Status	Company
x 1	Allen Klassen, Chairman	M	Westar Energy
x 2	Ron Gunderson, Vice Chairman	M	Nebraska Public Power District
x 3	Jim Useldinger	M	South Central MCN
P 4	Paul Lampe	M	City of Independence, MO
x 5	Kyle McMenamin	M	Xcel Energy
x 6	Steve Haun	M	Lincoln Electric System
x 7	Allan George	M	Sunflower Electric Power Corporation
P 8	Jeff Wells	M	Grand River Dam Authority
x 9	John Stephens	M	City Utilities of Springfield
P 10	Todd Gosnell	M	Omaha Public Power District
x 11	Bryn Wilson	M	Oklahoma Gas and Electric Co.
x 12	Dennis Sauriol	M	American Electric Power
x 13	Darrel Yohnk	M	ITC Holdings
P 14	David Pham	M	Empire District Electric Company
P 15	Matthew Stoltz	M	Basin Electric Power Cooperative
x 16	Chance Myers	M	Western Farmers Electric Cooperative
P 17	Craig Speidel	M	Western Area Power Administration
x 18	Fred Meyer	P	Proxy for David Pham
x 19	Gary Plummer	P	Proxy for Paul Lampe
x 20	Greg Ramsey	P	Proxy for Jeff Wells
x 21	Scott Byer	P	Proxy for Craig Speidel
x 22	Neal Faltys	P	Proxy for Todd Gosnell
x 23	Jeremy Severson	P	Proxy for Matthew Stoltz
x 24	Ben Hammer	G	Western Area Power Administration
x 25	Ella Caillouette	G	NorthWestern Energy
x 26	Mark Ahlstrom	G	Windlogics
x 27	Robert Hirschak (Cleco)	G	Cleco
x 28	Mark Eastwood	G	City Utilities of Springfield
x 29	Denney Fales	G	Kansas City Power & Light
x 30	Jamie Hajek	G	NorthWestern Energy
x 31	John Allen	G	City Utilities of Springfield
x 32	Jarrod Wolford	G	Northeast Texas Electric Cooperative, Inc
x 33	Mark Robinson	G	Southwestern Power Administration
x 34	Mike Wech	G	Southwestern Power Administration
x 35	Jeremy Voll	G	Basin Electric Power Cooperative
x 36	Jason Chaplin	G	Oklahoma Corporation Commission
x 37	Ben Hammer	G	Western Area Power Administration
x 38	John Boshears	G	City Utilities of Springfield
x 39	James Lewis	G	Noble Power
x 40	Sing Tay	G	Oklahoma Gas & Electric
x 41	Steve Gaw	G	The Wind Coalition
x 42	Terry Gates	G	American Electric Power
x 43	Tom Mayhan	G	Omaha Public Power District
x 44	Casey Cathey	S	Southwest Power Pool
x 45	Kevin Sanson	S	Southwest Power Pool
x 46	Gary Snow	S	Southwest Power Pool
x 47	Temper Williams	S	Southwest Power Pool
x 48	Jason Tanner	S	Southwest Power Pool
x 49	Will Tootle	S	Southwest Power Pool
x 50	Karen Thomas	S	Southwest Power Pool
x 51	Margaret Q. Adams	S	Southwest Power Pool
x 52	Neil Robertson	S	Southwest Power Pool
x 53	Ron Losh	S	Southwest Power Pool
x 54	Tim Miller	S	Southwest Power Pool
x 55	Ken Quimby	S	Southwest Power Pool
x 56	Jon Langford	S	Southwest Power Pool
x 57	John Gunter	S	Southwest Power Pool

x	58	Kathy Myhand	S	Southwest Power Pool
x	59	CJ Brown	S	Southwest Power Pool
x	60	Dan Epperson	S	Southwest Power Pool