



**Southwest Power Pool, Inc.**

**OPERATING RELIABILITY WORKING GROUP**

**Dallas AEP Office Face to Face**

**Wednesday June 28<sup>th</sup> 2017 8:00 AM – 5:00 PM (CDT)**

**Thursday June 29<sup>th</sup> 2017 8:00 AM – 12:00 PM (CDT)**

**• A c t i o n I t e m s a n d V o t i n g R e c o r d •**

1. **ACTION ITEM: SPP staff shall return to ORWG with updated cost for 40 concurrent users for the full II feature option as described in the presentation.**
2. **ACTION ITEM: SPP staff shall clarify the difference between “Alert” and “Warning” in the GMD document.**
3. **ACTION ITEM: SPP staff shall send the ICCP survey results to the participants.**
4. **ACTION ITEM: Determine if SPP needs further enhancement to the low voltage ride through requirement.**
5. **ACTION ITEM: Send new link to ORWG participants for the OU Project.**
6. **ACTION ITEM: Return to ORWG with language explaining how TOP operating instructions should be communicated to SPP.**
7. **ACTION ITEM: Add awareness language for DERs in the SPP restoration plan**

**June 1, 2017 ORWG Meeting Minutes**

**Ron Gunderson (Nebraska Public Power District) moved to approve the June 1, 2017 ORWG Meeting Minutes as corrected and Gary Plummer (City of Independence, MO) seconded the motion. The motion carried without opposition or abstention.**

**RAS at Oklaunion**

**Ron Gunderson (Nebraska Public Power District) moved to approve the 5-year renewal of the Oklaunion remedial action scheme and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion carried without opposition or abstention.**

**Generation Retirement Process**

**Ron Gunderson (Nebraska Public Power District) moved to endorse the need for SPP to develop a generator retirement process, and Kyle McMenamain (Xcel Energy) seconded the motion. The motion carried without opposition or abstention.**



**Southwest Power Pool, Inc.**

**OPERATING RELIABILITY WORKING GROUP**

**Dallas AEP Office Face to Face**

**Wednesday June 28<sup>th</sup> 2017 8:00 AM – 5:00 PM (CDT)**

**Thursday June 29<sup>th</sup> 2017 8:00 AM – 12:00 PM (CDT)**

**• M I N U T E S •**

**Administrative Items / Attendance / Agenda Review**

**Agenda Item 1 – Call to Order**

Chairman Allen Klassen (Westar Energy, Inc.) opened the meeting at 8:10AM on 6/28/2017.

Chairman Allen Klassen (Westar Energy, Inc.) opened the meeting at 8:05AM on 6/29/2017.

**Agenda Item 2 – Attendance**

Jason Tanner (Southwest Power Pool) called attendance and a meeting quorum was reached on both days.

**Agenda Item 3 – Agenda Review**

Allen Klassen (Westar Energy, Inc.) reviewed the agenda and noted the items that would require action.

**Consent Agenda**

**Agenda Item 4 – For Consent Action**

Allen Klassen (Westar Energy, Inc.) discussed the consent agenda item, which included the June 1, 2017 ORWG Meeting Minutes. Ron Gunderson (Nebraska Public Power District) requested to pull the minutes from consent for discussion.

**Agenda Item 4b – Consent agenda items pulled for discussion**

Ron Gunderson (Nebraska Public Power District) submitted three grammatical corrections to the minutes, and Jason Tanner (Southwest Power Pool) stated that he would make the corrections and repost the minutes.

**Ron Gunderson (Nebraska Public Power District) moved to approve the June 1, 2017 ORWG Meeting Minutes as corrected and Gary Plummer (City of Independence, MO) seconded the motion. The motion carried without opposition or abstention.**

**Liaison Reports**

**OCRTF Update**

Neil Robertson (Southwest Power Pool) provided an update for the OCRTF and stated that the current goal is to file revision requests encompassing the efforts of the OCRTF that will target the October MOPC. Drafts of these Revision Requests will be posted to the OCRTF page in the near future. Neil

provided dates for the next OCRTF meetings and stated the meeting registration would be posted to the OCRTF page.

#### **Agenda Item 5 – RAS at Oklaunion.**

Rick Gurley (American Electric Power) provided an update for the Oklaunion RAS and discussed the onelines. Abu Elteriefi (ITC Holdings) asked if the RAS was armed at all times and Rick stated it was. Abu question if the RAS could be operated with the third breaker open and Rick stated that it has not been studied that way, but it is possible. Kyle asked if the TWG approved the RAS, and Rick stated that he would have to return to TWG for approval. Rick stated that TWG had concerns over the enhancements at Tuco, and that a new reactor is still needed at Oklaunion. Rick stated that TWG is asking for an additional study. Jason Tanner (Southwest Power Pool) explained that an approval from ORWG is strictly for the 5-year renewal of the current RAS. Jason stated if modifications are made and approved at SPCWG and TWG a separated vote would be required by ORWG.

**Ron Gunderson (Nebraska Public Power District) moved to approve the 5-year renewal of the Oklaunion remedial action scheme and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion carried without opposition or abstention.**

#### **Agenda Item 6 – Lebrock Tripping Scheme**

Rick Gurley (American Electric Power) discussed the Lebrock tripping scheme and stated that the scheme will trip the units to instability if two of the lines trip out of service. Since NERC changed the definition of a system protection scheme, Rick asked if this should be considered a RAS. Rick stated that SPCWG did not consider it a RAS due to the exception "E". Ron Gunderson (Nebraska Public Power District) asked if the scheme is only designed to protect the generator, Rick stated it was. Ron asked if it was a stability issue and what type of stability issue. Rick reviewed the Harrison County Plant Stability report and explained the identified instability. Ron stated he believes the Lebrock Tripping Scheme should be considered a RAS. Allen Klassen (Westar Energy, Inc.) stated that because the scheme is focused on the breaker status it is a RAS, and Allen stated that based on the presented material he does not believe exception "E" is satisfied.

#### **Agenda Item 7 – Replicated Data Server.**

Tim Miller (Southwest Power Pool) discussed the history of the replicated data server and explained the core features. Tim provided a list of potential enhancements, and provided a benefit to cost comparison. Keith Carmen (Tri-State G&T) explained the advantages and disadvantages of the Peak RC HAA. The ORWG discussed the concurrent users limit and Erik Felt (GE) explained that GE does not lock out users if the 15 concurrent users limit is exceeded. Tim explained the cost breakdown for members to run independent studies, and explained the cost associated with the number of buses in a members system. Tim stated that SPP budgeted for the Full II option. The ORWG recommended SPP staff to return to ORWG with updated cost for 40 concurrent users for the full II option.

**ACTION ITEM: SPP staff shall return to ORWG with updated cost for 40 concurrent users for the full II feature option as described in the presentation.**

#### **Agenda Item 8 – ICCP Survey Results.**

Tim Miller (Southwest Power Pool) explained the ICCP Survey results and reviewed the survey questions and answers. SPP staff and ORWG members created an ICCP survey to look for potential improvements

to systems, coordination, EMS accuracy, and SPP's customer service. Tim stated that the survey was sent to ICCP technical contacts and ORWG representatives on 5/17/2017. Allen Klassen (Westar Energy, Inc.) asked Tim if he plans to send out the survey responses, and Tim stated he would if ORWG agrees.

**ACTION ITEM: SPP staff shall send the ICCP survey results to the participants.**

#### **Agenda Item 9 – ICCP GMD Alert Straw Man Proposal.**

Tim Miller (Southwest Power Pool) explained ICCP GMD Alert Straw Man Proposal and stated that ORWG requested a straw-man proposal detailing the receipt of Geo-Magnetic Disturbance (GMD) alerts using ICCP instead of the SPP Reliability Coordinator satellite phone call. Tim stated the proposal was discussed during the March 1, 2017 and May 3-4, 2017 ORWG meetings. Tim explained the design that SPP staff is ready to begin implementing, which is included in the meeting materials. Tim explained that SPP staff expects to have the system in place by the end of September 2017 for member testing. Tim also explained that changes to SPP procedures would be expected to eliminate the Reliability Coordinator's satellite phone call by the end of November 2017.

**ACTION ITEM: SPP staff shall clarify the difference between "Alert" and "Warning" in the GMD document.**

#### **Agenda Item 10 – Wind and Load Forecasting in SPP.**

Ricky Finkbeiner (Southwest Power Pool) discussed the load forecast and resource forecast, and explained the loads we use for forecasting. Ron Gunderson (Nebraska Public Power District) asked if SPP is at a point that it could forecast load without it being sent from member companies, and Ricky stated we are not at that point. Ricky discussed the short-term load forecast and explained how reference days are selected, and Ron asked how far back we could go to select reference days. Ricky stated around a year. Ricky explained the mid-term forecast and Steve Gaw (The Wind Coalition) asked if we have a process to select the correct forecast. Ricky stated that we are looking into ways to automate the forecast selection. Ricky discussed the resource forecast and stated SPP uses Energy & Meteo for its wind forecast. Ricky explained the confidence bands, forecast problems, and SPP's current and future work related to forecasting. Steve asked if SPP has compared our forecast to other RTOs, and Ricky stated we have compared to ERCOT and found that SPP's forecast accuracy is greater.

#### **Agenda Item 11 – SPP Voltage Ride Through.**

Margaret Adams (Southwest Power Pool) explained PRC-024-2, which states that Generator Owners are to set their generator protective relays such that generating units remain connected during defined frequency and voltage excursions. Jason Tanner (Southwest Power Pool) explained that SPP currently has low voltage ride through requirements in the SPP Tariff, and the ORWG stated that we should take an action item to determine if SPP needs further enhancement to the requirement.

**ACTION ITEM: Determine if SPP needs further enhancement to the low voltage ride through requirement.**

#### **Agenda Item 12 – OU Restoration Project Update.**

Garrett Crowson (Southwest Power Pool) discussed the OU restoration project efforts, and explained that SPP has resent and verified the receipt of all results to the remaining seven TOPs. Garrett stated that he has contacted the participating TOPs to determine if anyone prepared to review results. Garrett stated that he is currently awaiting responses to setup meetings.

**ACTION ITEM: Send new link to ORWG participants for the OU Project.**

#### **Agenda Item 13 – TOP OOME Process.**

Terry Oxandale (Southwest Power Pool) explained the OOME process and followed up from the previous ORWG discussion. Terry explained the need for TOPs to communicate TOP operating instructions to the RC. Terry explained the complexities for the TOPs to issue operating instructions and stated that he would bring language to ORWG explaining how TOP operating instructions should be communicated to SPP.

**ACTION ITEM: Return to ORWG with language explaining how TOP operating instructions should be communicated to SPP.**

#### **Agenda Item 14 – Generator Retirement Process.**

Jon Langford (Southwest Power Pool) explained the generator retirement process white paper. Jon explained that we have not had to worry about generation retirements due to reserves and capacity within SPP. Jon reviewed generator retirement statistics and stated that SPP is looking at the need for a generator retirement process, which would include mothballing of resources. Ron Gunderson (Nebraska Public Power District) recommended the GOPs run the necessary studies to retire a unit, and Allen Klassen (Westar Energy, Inc.) asked what timeframe would be used for analysis. Bryn Wilson (Oklahoma Gas and Electric Co.) asked if SPP could stop a generation retirement, and Casey Cathey (Southwest Power Pool) explained that SPP would only stop a generation retirement when a reliability concern is identified. Casey stated that in the event SPP did stop a retirement the resource would become a RMR. Terry Gates (American Electric Power) asked if SPP would publish the results if a resource retirement was postponed and placed into RMR status. Jon explained that SPP would first review the results with the GO or agent before posting results. Ron recommended adjusting slide 11 to 1 month, and Jon provided a review of the changes made by ORWG. Jon explained the detailed analysis slide and stated the reliability studies will include steady state thermal, voltage, and stability analysis. Jon explained that voltage stability analysis would be based on power transfer analysis using VSAT, and planning studies would determine if mitigations of identified impacts would be required for near and long term periods.

**Ron Gunderson (Nebraska Public Power District) moved to endorse the need for SPP to develop a generator retirement process, and Kyle McMenamain (Xcel Energy) seconded the motion. The motion carried without opposition or abstention.**

#### **Agenda Item 15 – Overview of latest wind penetration record timeframe.**

Casey Cathey (Southwest Power Pool) explained how SPP is managing high wind levels, and showed the latest wind records. Casey explained the lost wind during high wind penetration, and how the margin between the thermal limit and voltage stability limit is becoming smaller. Casey explained we have forecasted wind above 60%, however due to curtailments we have peaked at 54%. Casey discussed the N-2 analysis performed and stated that we found voltage collapse in the SPS area. Casey showed the number of studies performed by SPP and explained how SPP is handling the recommendations from the wind studies. Casey also discussed the SPP Essential Reliability Services.

#### **Agenda Item 16 – Update on RC Communication Tool Project**

Scott Aclin (Southwest Power Pool) explained that SPP is currently working with MISO and Peak RC to share code that will enable SPP to have a RC communication tool. Scott stated that MISO's tool is more developed than Peak RCs, and we will likely pursue it. The ORWG thanked Scott for his efforts and agreed that pursuing the MISO version was the correct course of action.

#### **Agenda Item 17 – NERC Reliability Standard Activities Update**

Shannon Mickens (Southwest Power Pool) discussed the recent NERC activities and provided dates for the upcoming workshops and conferences. Shannon reviewed the projects currently posted for comments and provided ORWG with a reminder of the standards that will become effective on July 1, 2017.

#### **Agenda Item 18 – NERC ITP Manual Operational Enhancement**

Will Tootle (Southwest Power Pool) explained the latest updates to the persistent operational solution evaluations document. Will stated that ORWG is the owner of this section of the ITP Manual and the presented language would be going to MOPC in July. The ORWG did not have any objections.

#### **Agenda Item 19 – Distributed Energy Resources in System Restoration**

Jon Langford (Southwest Power Pool) discussed the variability in generation during system restoration. Jon asked ORWG if we should add additional language for distributed resources in TOP blackstart plans. Allen Klassen (Westar Energy, Inc.) stated he believes it could be a challenge getting that information to the resources, and we may be better off holding the breaker open until security is achieved during restoration. ORWG advised SPP to create awareness language that could be placed in the SPP restoration plan.

**ACTION ITEM: Add awareness language for DERs in the SPP restoration plan**

#### **OTHER ITEMS:**

#### **Agenda Item 20 – Member Topic List.**

Jason Tanner (Southwest Power Pool) reviewed the member topic list and added three new topics for future meetings.

## **Action Item Review**

### **Agenda Items 21/22 – Summary of Action Items**

See Page 1 Action Item list.

### **Agenda Items 23 – Q&A/Open Forum**

### **Agenda Item 24 – Meeting Schedule**

- a. 8/3/2017 WebEx (Thurs) 0830-1200
- b. 9/7/2017 WebEx (Thurs) 0830-1200
- c. 10/04-05/2017 Face-to-Face (Detroit, MI) (ITC) - CONFIRMED
- d. 11/2/2017 WebEx (Thurs) 0830-1200
- e. 12/7/2017 WebEx (Thurs) 0830-1200
- f. 1/3 – 1/4/2018 Face-to-Face (Denver, CO) (Xcel) – TENTATIVE
- g. 2/1/2018 WebEx (Thurs) 0830-1200
- h. 3/1/2018 WebEx (Thurs) 0830-1200
- i. 4/4 – 4/5/2018 Face-to-Face (Tulsa, Oklahoma) (GRDA) – TENTATIVE
- j. 5/3/2018 WebEx (Thurs) 0830-1200
- k. 5/31/2018 WebEx (Thurs) 0830-1200
- l. 6/27 – 6/28/2018 Face-to-Face (Denver, CO) (Tri State) – TENTATIVE
- m. 8/2/2018 WebEx (Thurs) 0830-1200
- n. 9/6/2018 WebEx (Thurs) 0830-1200
- o. 10/3 – 10/4/2018 Face-to-Face (Little Rock, AR) (SPP) – TENTATIVE
- p. 11/1/2018 WebEx (Thurs) 0830-1200
- q. 12/6/2018 WebEx (Thurs) 0830-1200

### **Agenda Item 25 – Adjourn**

Chairman Allen Klassen (Westar Energy, Inc.) adjourned the ORWG at 4:40 PM (CDT) on 06/28/2017  
Chairman Allen Klassen (Westar Energy, Inc.) adjourned the ORWG at 11:01 PM (CDT) on 06/29/2017

Respectfully Submitted,

Jason Tanner  
Secretary



**Operating Reliability Working Group  
Meeting Attendance: 6/28-29/2017  
M=Member, G=Guest, S=SPP Staff, P= Proxy**



Day 1	Day 2		Name	Status	Company
x	x	1	Allen Klassen, Chairman	M	Westar Energy
x	x	2	Ron Gunderson, Vice Chairman	M	Nebraska Public Power District
x	x	3	Jim Useldinger	M	South Central MCN
x	x	4	Gary Plummer	M	City of Independence, MO
x	x	5	Kyle McMenamain	M	Xcel Energy
x	x	6	Laurie Gregg	M	Lincoln Electric System
x	x	7	Allan George	M	Sunflower Electric Power Corporation
x	x	8	Jeff Wells	M	Grand River Dam Authority
x	x	9	Todd Gosnell	M	Omaha Public Power District
x	x	10	Bryn Wilson	M	Oklahoma Gas and Electric Co.
x	x	11	Dennis Sauriol	M	American Electric Power
x	x	12	David Pham	M	Empire District Electric Company
x	x	13	Matthew Stoltz	M	Basin Electric Power Cooperative
x	x	14	Chance Myers	M	Western Farmers Electric Cooperative
x	x	15	Craig Speidel	M	Western Area Power Administration
x	x	16	Abu Elteriefi	M	ITC Holdings
x	x	17	Jay Patel	M	Kansas City Power & Light
x	x	18	Mark Eastwood	M	City Utilities of Springfield
x	x	19	Keith Carmen	M	Tri-State G&T
x		20	Tanner New	G	Sunflower Electric Power Corporation
x	x	21	Chris Lyons	G	Customized Energy Solutions
x	x	22	Tom Mayhan	G	Omaha Public Power District
x	x	23	John Stephens	G	City Utilities of Springfield
x		24	Terry Gates	G	American Electric Power
x		25	Jamie Hajek	G	NorthWestern Energy
x		26	Steve Gaw	G	The Wind Coalition
x	x	27	Brad Johnston	G	Arkansas Electric Cooperative Corporation
x	x	28	Mike Anderson	G	American Electric Power
x		29	Erik Felt	G	GE
x	x	30	Ben Hammer	G	Western Area Power Administration
x		31	Ryan Kirk	G	American Electric Power
x		32	Rick Gurley	G	American Electric Power
x		33	John Boshears	G	City Utilities of Springfield
x		34	Jeff Knottek	G	City Utilities of Springfield
x		35	Robert Hirschak	G	Cleco
x		36	Jason Shook	G	GDS Associates, Inc.
x		37	Mark Robinson	G	MERConsulting
x	x	38	John Hare	G	Oklahoma Gas and Electric Co.
x	x	39	Kevin Ma	G	Oklahoma Gas and Electric Co.
x		40	Sing Tay	G	Oklahoma Gas and Electric Co.
x	x	41	Neal Faltys	G	Omaha Public Power District
x	x	42	Brad Heimes	G	Omaha Public Power District
x		43	Shawnee Claiborn-Pinto	G	Public Utility Commission of Texas
x		44	Wayne Penrod	G	Sunflower Electric Power Corporation
x		45	Kevin Galke	G	The Energy Authority
x		46	Baryaley Sharwani	G	Western Area Power Administration
x		47	Josie Daggett	G	Western Area Power Administration
x	x	48	Garrick Nelson	G	Western Area Power Administration
x	x	49	Carrie Dixon	G	Xcel Energy
x		50	Ron Thompson	G	Nebraska Public Power District
x	x	51	John Allen	G	City Utilities of Springfield
x		52	Keeth Works	G	Southwestern Power Administration
x	x	53	Jason Mazigian	G	Basin Electric Power Cooperative
x	x	54	Jason Tanner	S	Southwest Power Pool
x		55	Neil Robertson	S	Southwest Power Pool
x	x	56	Casey Cathey	S	Southwest Power Pool
x		57	Erin Cathey	S	Southwest Power Pool
x		58	Ricky Finkbeiner	S	Southwest Power Pool
x		59	Steve Purdy	S	Southwest Power Pool
x	x	60	Garrett Crowson	S	Southwest Power Pool
x		61	Chris Cranford	S	Southwest Power Pool
x		62	Margaret Q. Adams	S	Southwest Power Pool
x		63	Chase Harrod	S	Southwest Power Pool



x		64	David Daniels	S	Southwest Power Pool
x		65	Tim Miller	S	Southwest Power Pool
x		66	Terry Oxandale	S	Southwest Power Pool
x	x	67	Will Tootle	S	Southwest Power Pool
x		68	Kevin Sanson	S	Southwest Power Pool
x	x	69	Jon Langford	S	Southwest Power Pool
	x	70	Scott Aclin	S	Southwest Power Pool
	x	71	Shannon Mickens	S	Southwest Power Pool
x		72	Derek Hawkins	S	Southwest Power Pool