

Southwest Power Pool, Inc.  
OPERATING RELIABILITY WORKING GROUP  
Face to Face,  
AEP Office Dallas, TX

Wednesday October 02, 2019 8:00 AM – 5:00 PM (CDT)

Thursday October 03, 2019 8:00 AM – 12:00 PM (CDT)

• Action Items and Voting Record •

Action Item: SPP to update ORWG on the tie line latency research.

**Agenda Item 5a – Consent Agenda (a) (September 5, 2019 ORWG Meeting Minutes and DPP Validation Process Clarification)**

Jeff Wells (Grand River Dam Authority) moved to approve the consent agenda, and Kyle McMenamain (Xcel Energy) seconded the motion. The motion carried without opposition or abstention.

**Agenda Item 9 – IBIS Recommendations**

Kyle McMenamain (Xcel Energy) moved to endorse the IBIS study report and recommends to the MOPC that SPP staff continue scoping and working with applicable stakeholder groups to implement the report recommendations, and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion carried without opposition or abstention.

**Agenda Item 12 – Flowgate Loading in RTCA**

Jeff Wells (Grand River Dam Authority) moved to endorse the OCMTF option 2 recommendation, and Ron Gunderson (Nebraska Public Power District) seconded the motion. The motion carried without opposition or abstention.

**Agenda Item 13 – Scope Review BAOC Edits**

Ron Gunderson (Nebraska Public Power District) moved to approve the redline changes to the ORWG scope, and Jeff Wells (Grand River Dam Authority) seconded the motion. The motion carried without opposition or abstention.

**Agenda Item 14 – CGC Recommended Chair Nomination**

Ron Gunderson (Nebraska Public Power District) moved to recommend Allen Klassen as Chair of the ORWG, and Kyle McMenamain (Xcel Energy) seconded the motion. The motion carried without opposition or abstention.

**Agenda Item 15 – Vice Chair Election**

Jeff Wells (Grand River Dam Authority) moved to elect Ron Gunderson as Vice Chair of the ORWG, and Bryn Wilson (Oklahoma Gas and Electric Co.) seconded the motion. The motion carried without opposition or abstention.

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OPERATING RELIABILITY WORKING GROUP**

Face to Face,

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**Wednesday October 02, 2019 8:00 AM – 5:00 PM (CDT)**

**Thursday October 03, 2019 8:00 AM – 12:00 PM (CDT)**

• M I N U T E S •

**Agenda Item 1 – Call to Order**

Chairman Allen Klassen (Eversource, Inc.) called the meeting to order at 8:03 AM on 10/02/2019.

Chairman Allen Klassen (Eversource, Inc.) called the meeting to order at 8:02 AM on 10/03/2019.

**Agenda Item 2 – Attendance**

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

**Agenda Item 3 – Antitrust Statement**

Jason Tanner (Southwest Power Pool) read the SPP Antitrust Statement.

**Agenda Item 4 – Agenda Review and Notification**

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

**Agenda Item 5a – Consent Agenda**

Allen Klassen (Eversource, Inc.) discussed the consent agenda, which included the September 5, 2019 ORWG Meeting Minutes and DPP Validation Process Clarification.

**Jeff Wells (Grand River Dam Authority) moved to approve the consent agenda, and Kyle McMennamin (Xcel Energy) seconded the motion. The motion carried without opposition or abstention.**

**Agenda Item 6 - Liaison Reports**

**6a - PFRTF Activities Update**

Allan George (Sunflower Electric Power Corporation) discussed the activities of the Primary Frequency Response Task Force (PFRTF) and stated that the task force is looking to issue a survey that gathers information regarding resource specific information. Allan stated that the group is looking for information about the prime mover type and the maximum MW under governor control for low frequency response. Allan stated that the survey is in the background materials and the results received will be reviewed and a future PFRTF meeting.

**6b - SRTF Activities Update**

Jeff Wells (Grand River Dam Authority) stated that the SRTF is in a holding pattern due to the number of ongoing activities and staff availability. Jeff stated that the group is working to review feedback from both operators and trainers to make sure they are in sync with each other. Allen Klassen (Eversource, Inc.) requested that SRTF review the interconnection checklist for clarification. Jeff stated that the group could do a clarification review of the checklist. Jeff also announced that Neil Robertson (Southwest Power Pool) would be stepping down as staff secretary and that Garrett Crowson (Southwest Power Pool) would be assuming the staff secretary role of the SRTF.

### **6c - OCMTF Activities Update**

Doug Peterchuck (Omaha Public Power District) discussed the activities of the OCMTF and stated that the group reviewed results of the power swings in August 2019. Doug stated that the OCMTF believes internal resources and congestion management contributes to unacceptable transmission loading volatility. Ron Gunderson (Nebraska Public Power District) stated that the power swings and volatility are not solely driven by M2M and that some of the oscillations may be driven by the SPP market.

### **Agenda Item 7 – RR116, RR137, and RR256**

Michael Ray (Southwest Power Pool) stated that RR116, RR137, and RR256 were being withdrawn due to conflicts with RR375. Allen Klassen (Evergy, Inc.) asked if the changes inside of RR116, RR137, and RR256 would be rolled into RR375. Michael explained that FERC stated that SPP needed to remove its quick start design and start over. Michael stated that RR375 was designed to address FERC's comments, and withdrawing RR116, RR137, and RR256 will remove the conflicts associated with RR375. Michael stated that RR375 will be going to the October MOPC for approval.

### **Agenda Item 8 – TOP-003 Operating Model Re-Work**

Bryn Wilson (Oklahoma Gas and Electric) discussed the history of TOP-003-3 and stated the standard became effective 1/1/2017. Bryn stated that OG&E sees difficulties in managing diverse data specifications such as multiple formats or categorization differences. Bryn stated that his team is working to overhaul the data spec to improve efficiencies. Joshua Wakeam (Oklahoma Gas and Electric) discussed the master spreadsheet and reviewed the additions made to it. Joshua stated that he was interested to know if the changes satisfied compliance as a process change. John Hare (Oklahoma Gas and Electric) stated that the data specification overhaul would minimize duplicate work. Bryn reviewed the approach to automating the model reduction and merging of the SPP Operation Planning model to the OG&E internal model as well as identifying topology and parameter changes to the neighboring systems using an automated model comparison. Bryn asked if anyone is redoing their TOP-003 data specification, and Doug Peterchuck (Omaha Public Power District) and Allan George (Sunflower Electric Power Corporation) stated that they were. Jeff Wells (Grand River Dam Authority) asked if most of the issues related to the data specification were external to SPP, and Joshua stated that they were. Bryn stated that the primary data is on the ties and if people change their data it could cause issues if the new data is not properly communicated. Jeff Wells stated that GRDA has taken the approach that we shouldn't have 500 different individual data specifications, and that GRDA considers SPP's data specification its own. Jeff stated that he would provide what is required to SPP and go get what he needs for special data.

### **Agenda Item 9 – IBIS Recommendations**

Doug Bowman (Southwest Power Pool) discussed the transient stability study results of the Inverter based Generation Integration Study (IBIS). Doug stated that the TSAT response was benchmarked against PSS/E results and a dominant 0.56Hz oscillatory mode with sufficient damping was observed in SPP footprint for both sets of results. Doug stated that the TSAT results indicated that instability occurred for faults close to Wolf Creek U1, which could be caused by exciter model data issue. Doug stated that the Prony analysis found a dominant mode which indicated sufficient damping in all cases except those close to Wolf Creek. Doug stated the issue disappeared after removing the Wolf Creek exciter model. Doug explained the small signal stability results and showed that the damping issues improved around Wolf Creek after removing the exciter model. Doug discussed the recommendations and the group amended recommendation number 8 to include GOs and developers.

**Kyle McMenam (Xcel Energy) moved to endorse the IBIS study report and recommends to the MOPC that SPP staff continue scoping and working with applicable stakeholder groups to implement the report**

recommendations, and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion carried without opposition or abstention.

#### **Agenda Item 10 – HITT Recommendations**

Charles Cates (Southwest Power Pool) provided a high-level overview of the HITT Recommendations and stated that the SPP Board of Directors approved the 21 recommendations. Charles stated that one of the HITT recommendations that ORWG is primary on is the economic evaluations of reliability, and that staff would be returning to ORWG at future meetings to discuss the item. Charles stated that the HITT dissolved and the Strategic Planning Committee (SPC) is the controlling group, and Charles recommended that ORWG keep this item as a standing agenda item for future updates and discussions. Ron Gunderson (Nebraska Public Power District) stated that he would like to see an assessment performed for the changing resource mix, and include analysis for SCR and CCT.

#### **Agenda Item 11 – Dynamic Ratings FERC Technical Conference**

Mark Eastwood (City Utilities of Springfield) discussed the FERC technical conference and stated that it consisted of five panels Transmission Line Rating Methodologies, DLR/AAR Implementation, Proposal of Requiring TO's to Implement DLR's/AAR's, Ability of RTO's/ISO's to receive and utilize DLR's/AAR's, and Transparency of Ratings Methodologies. Mark stated that some of the takeaways from the discussion was that DLR's could equate to 10-30% more transmission capacity available 95% of the time and that 6 Billion in annual congestion costs currently exist which 10% could be eliminated by using DLR's/AAR's with no investments in upgrades needed. Ron Gunderson (Nebraska Public Power District) stated that he is concerned that only the benefits were presented without assessing the implementation cost or the asset loss of life cost. Chris Shafer (American Electric Power) stated that he is looking for consistency across RTO's. Chris stated that his organization manages different rating requirements and methodologies in the different regions and would like the ability to manage the different systems using consistent requirements. Mark stated the next meeting will be on November 5 and 6, 2019.

#### **Agenda Item 12 – Flowgate Loading in RTCA**

William Ragsdale (Southwest Power Pool) discussed the ratings within individual SPP applications and discussed the general timeline of RTBM dispatches. William discussed the differences between RT and RTBM and stated that if load forecast is inaccurate it could drive RTBM to see different flowgate loading levels in the vicinity of the load forecast error. William stated that the OCMTF reviewed three options and endorsed the second option, which was to use RTCA results to feed RTBM dispatch. William stated that this option would require some system changes to EMS and potentially the market. Allen Klassen (Evergy, Inc.) asked if ORWG endorses this recommendation today what are the next steps, and William stated that it would go to MOPC in January and would be part of the next EMS upgrade which would be part of a larger project.

**Jeff Wells (Grand River Dam Authority) moved to endorse the OCMTF option 2 recommendation, and Ron Gunderson (Nebraska Public Power District) seconded the motion. The motion carried without opposition or abstention.**

#### **Agenda Item 13 – Scope Review BAOC Edits**

Allen Klassen (Evergy, Inc.) discussed the edited version of the ORWG Scope and explained that the updated scope includes changes for ORWG absorbing the BAOC functions. Allen stated that the BAOC is currently working on a draft RR that they will submit to address potential changes to attachment AN.

**Ron Gunderson (Nebraska Public Power District) moved to approve the redline changes to the ORWG scope, and Jeff Wells (Grand River Dam Authority) seconded the motion. The motion carried without opposition or abstention.**

**Agenda Item 14 – CGC Recommended Chair Nomination**

Jason Tanner (Southwest Power Pool) discussed the process for electing the ORWG Chair and stated that ORWG would make a recommendation to CGC who would then make the nomination that goes to the SPP Board of Directors for approval. Jason stated that he has only received one recommendation for the ORWG Chair position and that was Allen Klassen, and Jason stated that Allen indicated he would like to continue serving as ORWG Chair.

**Ron Gunderson (Nebraska Public Power District) moved to recommend Allen Klassen as Chair of the ORWG, and Kyle McMenamin (Xcel Energy) seconded the motion. The motion carried without opposition or abstention.**

**Agenda Item 15 – Vice Chair Election**

Jason Tanner (Southwest Power Pool) explained that the Vice Chair position is elected by the ORWG, and Jason stated that he has only received one nomination and that was Ron Gunderson.

**Jeff Wells (Grand River Dam Authority) moved to elect Ron Gunderson as Vice Chair of the ORWG, and Bryn Wilson (Oklahoma Gas and Electric Co.) seconded the motion. The motion carried without opposition or abstention.**

**Agenda Item 16 – Smart Wires Modular Power Flow Control Solution**

Chris Ariante (Smart Wires) discussed the Smart Wires solutions and stated they can offer a ground or tower mounted solution to increase long term system capacity. Chris explained the mobile solutions and discussed how they can extend outage windows to help facilitate outage management. Chris stated that the Smart Wires mobile solution can improve system reliability by increasing system capacity and facilitate critical infrastructure upgrades of more construction projects during each outage season. Chris stated that the Smart Wires solution can reduce economic impacts by mitigating the need for uneconomic re-dispatch without compromising reliability.

**Agenda Item 17 – Operating a Changing Resource Mix**

Ron Gunderson (Nebraska Public Power District) discussed the historical resource mix which consisted of base load, cycling, peaking and dispatchable resources. Ron stated that today's resource mix consist of resources that are retiring, peaking units, and renewables. Ron stated that we need to begin considering our needs for contingency reserves when the forecasted uncertainty grows into the 5 gigawatt and above range. Ron stated we will need more coordinated resource planning to meet the BA needs. Jeff Wells (Grand River Dam Authority) stated that he believes we are continuing to push the system to the edge and that we seem to be in conservative operations more frequently. Steve Gaw (The Wind Coalition) stated that some of the issues are front and center and some seem to occur when the generation should be available. Garrett Crowson (Southwest Power Pool) stated that we are enhancing our generation outage assessment through the GAP process, and we will continue looking for new ways to improve. Allen Klassen (Evergy, Inc.) stated that cycling is also becoming an issue impacting the reliability of units, and Allen asked Ron what he believe the next steps should be. Ron stated that we should consider a recommendation to the next LOLE study. Ron also stated that he believes that some of the HITT recommendations will cover a portion of the topics.

### **Agenda Item 18 – Resource Adequacy and Operations Comparison**

Garrett Crowson (Southwest Power Pool) stated that in response to the MOPC action items there have been several efforts to compare resource adequacy inputs and real-time operational experiences. Garrett provided a capacity comparison chart that represents the economic maximum from bid profiles in the Integrated Marketplace, and the accredited capacity of registered resources from the 2019 Resource Adequacy workbook submissions. Garrett also provided a chart comparison of wind actual vs accreditation and explained how the real-time output of accredited wind fell below the resource adequacy accreditation roughly 18% of hourly intervals during the summer. Garrett also provided scheduled and unscheduled outage duration curves that showed the unavoidable outages or unscheduled outages with the status of forced, urgent, emergency or operational. Jeff Wells (Grand River Dam Authority) asked if we are seeing more opportunity outages, and Will Tootle (Southwest Power Pool) stated that since we started denying generator outages we are beginning to see more planned generation outages. Ron Gunderson (Nebraska Public Power District) suggested setting up a training on how to properly enter outage codes.

### **Agenda Item 19 – Using ICCP for Tie Line Data**

Jeff Wells (Grand River Dam Authority) discussed the requirements for tie line data and explained BAL 005-1 R1, R5, R7, and TOP 003-3 R5. Jeff stated that currently in tie line data exchange the data for ties is currently delivered from GRDA via a combination of 4 wire analog and serial circuits, and via Ethernet connections. Jeff stated that GRDA also has allowed ports off our RTU's for direct polling of the RTU. Jeff stated that the current format is not very cost effective and without redundant communication paths from counterpart there is very little improved reliability. Jeff stated that the GRDA data specification allows for the transfer of tie line data via ICCP and this falls in line with SPP data specification which allows for the same. Jeff stated that the SPP ICCP and GRDA ICCP have proven to be highly reliable with multiple built in redundancies as well as being far more cost effective. Doug Peterchuck (Omaha Public Power District) stated that latency issues occur with the design proposal and Jeff commented that SPP is working on the cause of the latency issue Jeff stated that in some cases dead bands have been found to be the culprit. Doug stated that OPPD would not move forward with the new design until the latency issues are corrected.

**Action Item: SPP to update ORWG on the tie line latency research.**

### **Agenda Item 20 – Cascading Outages Analysis**

Will Tootle (Southwest Power Pool) discussed the cascading outage analysis and explained how SPP would determine the next issue. Will stated that the process to perform a cascading analysis within an island runs every 15 minutes. Will asked ORWG what would be a reasonable threshold to trip the next element. Will asked if relays are set at 100%. Will stated that PRC-023 is 115%, however he is curious about the correct loading level. Allen Klassen (Eversource, Inc.) stated that we should trigger at 115%, however we shouldn't overreact.

### **Agenda Item 21 – NERC Standard Review Forum MRO**

Jim Williams (Southwest Power Pool) stated that SPP reliability standards mission is to provide a forward-looking Reliability Standards (RS) structure that provides full circle collaboration from Standards Authorization Requests (SAR) to Implementation. Jim stated the RS Group takes a leadership and facilitation role in the following by monitor and tracking changes of new, revised and/or retired standards. Jim stated that the group supports SPP and their Members in the drive towards efficient and effective standards continent wide. Jim stated that the purpose of the NERC standards review forum is to provide agreed upon comments to NERC Standard Drafting Teams during development of new or revised Standards, policies, guidelines and other compliance documents. Jim stated that the upcoming webinars are on October 8, 2019, November 14, 2019, and December 9, 2019.

**Other Items:**

**Agenda Item 22 – ORWG Member Topic List**

The ORWG member topic list was provided in the meeting material packet.

**Action Item Review:**

**Agenda Item 23 – Review of Open and Closure Pending Actions**

The action item list was provided in the meeting material packet.

**Agenda Item 24 – New Action Items**

Jason Tanner (Southwest Power Pool) reviewed the new action items with the ORWG.

**Agenda Item 25 – General Q&A/Open Forum**

**Agenda Item 26 – Meeting Schedule**

- a. 11/7/2019 WebEx (Thurs) 0830-1200
- b. 12/3/2019 WebEx (Tues) 0830-1200
- c. 1/07 - 1/08/2020 Face-to-Face (Denver, CO)(Xcel) – CONFIRMED
- d. 2/6/2020 WebEx (Thurs) 0830-1200
- e. 3/5/2020 WebEx (Thurs) 0830-1200
- f. 4/01 - 4/02/2020 Face-to-Face (Amarillo, TX)(Xcel) – CONFIRMED
- g. 5/7/2020 WebEx (Thurs) 0830-1200
- h. 6/4/2020 WebEx (Thurs) 0830-1200
- i. 6/30 - 7/01/2020 Face-to-Face (Tulsa, OK)(GRDA) – CONFIRMED
- j. 8/6/2020 WebEx (Thurs) 0830-1200
- k. 9/3/2020 WebEx (Thurs) 0830-1200
- l. 9/30 - 10/01/2020 Face-to-Face (Little Rock, AR)(SPP) – CONFIRMED
- m. 11/5/2020 WebEx (Thurs) 0830-1200
- n. 12/3/2020 WebEx (Thurs) 0830-1200

**Agenda Item 20 – Adjournment**

Chairman Allen Klassen (Westar Energy, Inc.) adjourned the ORWG at 4:35 PM (CST) on 10/02/2019.

Chairman Allen Klassen (Westar Energy, Inc.) adjourned the ORWG at 11:30 PM (CST) on 10/03/2019.

Respectfully Submitted,  
Jason Tanner, Secretary



**Operating Reliability Working Group  
Meeting Attendance: 10/02/2019  
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
x	4	Gary Plummer	M	City of Independence, MO
x	5	Kyle McMenamin	M	Xcel Energy
x	6	Laurie Gregg	M	Lincoln Electric System
x	7	Allan George	M	Sunflower Electric Power Corporation
x	8	Jeff Wells	M	Grand River Dam Authority
x	9	Mark Eastwood	M	City Utilities of Springfield
x	10	Doug Peterchuck	M	Omaha Public Power District
x	11	Bryn Wilson	M	Oklahoma Gas and Electric Co.
x	12	Chris Shaffer	M	American Electric Power
x	13	David Pham	M	Empire District Electric Company
x	14	Chance Myers	M	Western Farmers Electric Cooperative
x	15	Craig Speidel	M	Western Area Power Administration
x	16	Abu Elteriefi	M	ITC Holdings
x	17	Keith Carman	M	Tri-State G&T
x	18	Mark Eastwood	P	City Utilities of Springfield
x	19	Gary Plummer	G	City of Independence, MO
x	20	Kevin Ma	G	Oklahoma Gas and Electric Co.
x	21	Terry Volkmann	G	Volkmann Consulting
x	22	Eric Alexander	G	Grand River Dam Authority
x	23	Andrew Ridley	G	Grand River Dam Authority
x	24	Michael Massery	G	Electric Cooperatives of Arkansas
x	25	Emory Eschelbach	G	American Electric Power
x	26	Steve Farnsworth	G	Basin Electric Power Cooperative
x	27	Phil Westby	G	Basin Electric Power Cooperative
x	28	Tom Mayhan	G	Omaha Public Power District
x	29	Simon Mahan	G	Southern Wind Energy Association
x	30	Malcolm Ainspan	G	NRG Energy, Inc.
x	31	Marc Zolnierz	G	Midwest Energy, Inc.
x	32	Steve Gaw	G	The Wind Coalition
x	33	Seth Cochran	G	DC Energy
x	34	Pablo Ruiz	G	The Brattle Group
x	35	Ryan Kirk	G	American Electric Power
x	36	Neal Faltys	G	Omaha Public Power District
x	37	John Hare	G	Oklahoma Gas and Electric Co.
x	38	Joshua Wakeam	G	Oklahoma Gas and Electric Co.
x	39	Mark Buchholz	G	Western Area Power Administration
x	40	Ben Hammer	G	Western Area Power Administration
x	41	Baryaley Sharwani	G	Western Area Power Administration
x	42	Chris Bultsma	G	Western Area Power Administration
x	43	Jason Mazigian	G	Basin Electric Power Cooperative
x	44	Chris Lyons	G	Customized Energy Solutions
x	45	Jason Tanner	S	Southwest Power Pool
x	46	Charles Cates	S	Southwest Power Pool
x	47	Kristen Darden	S	Southwest Power Pool
x	48	Jeff Rooker	S	Southwest Power Pool
x	49	Terry Oxandale	S	Southwest Power Pool
x	50	Melissa Rinehart	S	Southwest Power Pool
x	51	Margaret B. Quispe	S	Southwest Power Pool
x	52	Mason Favazza	S	Southwest Power Pool
x	53	Morteza Sarailoo	S	Southwest Power Pool
x	54	Garrett Crowson	S	Southwest Power Pool
x	55	Tim Phillips	S	Southwest Power Pool
x	56	Will Ragsdale	S	Southwest Power Pool
x	57	Kevin Bates	S	Southwest Power Pool



x	58	Michael Ray	S	Southwest Power Pool
x	59	Doug Bowman	S	Southwest Power Pool
x	60	Kirk Hall	S	Southwest Power Pool
x	61	Scott Aclin	S	Southwest Power Pool
x	62	Daniel Baker	S	Southwest Power Pool
x	63	Will Tootle	S	Southwest Power Pool
x	64	Jim Williams	S	Southwest Power Pool
x	65	Temper Williams	S	Southwest Power Pool