

Southwest Power Pool, Inc.

OPERATING RELIABILITY WORKING GROUP

Face to Face Omaha, Neb

March 1st 2017 8:00 AM – 5:00 PM (CST)

March 2nd 2017 8:00 AM – 12:00 PM (CST)

• Action Items and Voting Record •

1. Action Item: SPP to decide on a date for a Joint meeting with TWG to discuss the VIS report and recommendations.
2. Action Item: Review the SOL methodology for cross references to RR213.
3. Action Item: Add the ICCP survey to the next ORWG agenda.
4. Action Item: Make an enhancement to CROW for reporting system restoration outages.
5. Action Item: Add language to the data specification document for planned and unplanned RTU outages.
6. Action Item: Provide a file naming structure for document submissions to the FTP site.

Consent Agenda Items: February 02, 2017 ORWG Meeting Minutes.

Jim Useldinger (South Central MCN) moved to approve the consent agenda and Craig Speidel (Western Area Power Administration) seconded the motion. The motion carried without opposition or abstention.

The RR Process Changes

Ron Gunderson (Nebraska Public Power District) moved to approve the RR Process changes as modified, and Todd Gosnell (Omaha Public Power District) seconded the motion. The motion carried without opposition or abstention.

RR205 Correction to RR127 for Regulation Limit Requirements

Todd Gosnell (Omaha Public Power District) moved to approve RR205, and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion carried without opposition or abstention.

VIS Report Recommendations

Abu Elteriefi (ITC Holdings) moved to approve the Variable Generation Integration Study recommendations, and Todd Gosnell (Omaha Public Power District) seconded the motion. The motion carried without opposition or abstention.

The VIS Report

Ron Gunderson (Nebraska Public Power District) moved to approve the Variable Generation Integration Study, and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion carried without opposition and one abstention Allen Klassen (Westar Energy, Inc.).

RR213 Voltage Stability Control

Jeff Wells (Grand River Dam Authority) moved to approve RR213 Voltage Stability Control as modified, and Laurie Gregg (Lincoln Electric System) seconded the motion. The motion carried without opposition or abstention.

Chronic Operational Issues

Jeff Wells (Grand River Dam Authority) moved to approve the Chronic Operational Issues document as modified, and Ron Gunderson (Nebraska Public Power District) seconded the motion. The motion carried without opposition or abstention.



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• 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 8:01 AM on 3/01/2017.
Chairman Allen Klassen (Westar Energy, Inc.) opened the meeting at 8:00 AM on 3/02/2017.

Agenda Item 2 – Attendance

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

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 consisted of the February 02, 2017 ORWG Meeting Minutes.

Jim Useldinger (South Central MCN) moved to approve the consent agenda and Craig Speidel (Western Area Power Administration) seconded the motion. The motion carried without opposition or abstention.

Liaison Reports

No liaison reports were submitted.

Agenda Item 5 – RR Process Changes.

Aaron Shipley (Southwest Power Pool) presented the changes to the RR process document. Aaron explained that SPP Minimum Transmission Design Standards for Competitive Upgrades (“MTDS”) would be included in the RR process. Aaron also discussed the revision request sub-process, which utilizes the same RR Forms and timelines, however once modifications to documents are approved by the assigned Primary Working Group, these documents as modified will be considered in force and placed on the next MOPC agenda as a written report. Ron Gunderson (Nebraska Public Power District) suggested additional language “If the MOPC identifies a need for further revisions, the document will be remanded to the Primary working group for further revisions. The latest version approved by the primary working group will remain in force until such revisions are approved by the primary working group.”

Ron Gunderson (Nebraska Public Power District) moved to approve the RR Process changes as modified, and Todd Gosnell (Omaha Public Power District) seconded the motion. The motion carried without opposition or abstention.

Agenda Item 6 – RR205 Correction to RR127 for Regulation Limit Requirements

Jodi Woods (Southwest Power Pool) explained RR205 and stated that when MWG approved RR127 they inadvertently missed additional language required to include the Minimum Regulation Capacity Operating Limits as part of the design changes to make the necessary modifications to the Combined Resource Option design. Jodi explained that RR127 requires each Asset Owner of a JOU share to submit a zero for the following minimum limits: Minimum Emergency Capacity Operating Limit, Minimum Normal Capacity Operating Limit, and Minimum Economic Capacity Operating Limit. This requirement should also include the Minimum Regulation Capacity Operating Limit. Jodi explained the red-lines and stated the additional language will correct a potential gaming opportunity identified by the MMU.

Todd Gosnell (Omaha Public Power District) moved to approve RR205, and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion carried without opposition or abstention.

Agenda Item 7 – VIS Report and Recommendations.

Jason Tanner (Southwest Power Pool) discussed the VIS report recommendations and provided an overview of the VIS study. Jason stated that the VIS report is an extension to the Wind Integration Study where SPP along with PowerTech Labs performed a transient stability analysis, frequency response analysis, seasonal voltage stability and load pocket analysis, and a targeted 5 minute future ramping analysis. Jason stated at the ORWG meeting in Denver the VIS recommendations were endorsed, however after presenting the recommendations at the VIS workshop and to the TWG it was recommended that we include Generator Interconnection Studies process to recommendation number 2.

Abu Elteriefi (ITC Holdings) moved to approve the Variable Generation Integration Study recommendations, and Todd Gosnell (Omaha Public Power District) seconded the motion. The motion carried without opposition or abstention.

Jason continued discussions over the VIS report and asked the ORWG they had any additional modifications for the report, and the ORWG did not raise any concerns. Jason stated that SPP has completed all recommended modifications to the report as submitted through RMS, and asked if ORWG was prepared to approve the report. Jason explained that if any modifications are made by the TWG the report will come back through the ORWG.

Action Item: SPP to decide on a date for a Joint meeting with TWG to discuss the VIS report and recommendations.

Ron Gunderson (Nebraska Public Power District) moved to approve the Variable Generation Integration Study, and Allan George (Sunflower Electric Power Corporation) seconded the motion. The motion carried without opposition and one abstention Allen Klassen (Westar Energy, Inc.).

Agenda Item 8 – RR213 Voltage Stability Control.

Jason Tanner (Southwest Power Pool) explained RR213 and stated that the RR was a VTF submitted revision request that will add a new appendix to the SPP operating criteria to support voltage stability. Jason stated that the RR will establish the process for identifying flow gates to be monitored for voltage stability, and will establish voltage limits those flow gates. Jason stated that the RR will also allow the SPP RC to apply a MW holdback margin in the event voltage stability issues are identified in real time. Jason discussed the red-lines and asked the ORWG to review and make adjustments to the document.

Allen Klassen (Westar Energy, Inc.) asked how are the paths identified, and Neil Robertson (Southwest Power Pool) explained that the interfaces could be identified through the next day process, planning process, and up to real-time. The ORWG added additional language to the RR “ monitored scenarios will be identified using available reliability studies, real time system information, outage schedules, and other relevant sources”). Jeff Wells (Grand River Dam Authority) asked how the communications would work when applying holdback margin. Will Tootle (Southwest Power Pool) explained that it would be communicated in the same manner as any other flow gate. Steve Gaw (The Wind Coalition) asked about communicating the stability limits to all stakeholders, and Neil explained that the limits would go through the normal reliability communication channels. The ORWG added additional language “the use of proxy flow gate limits for voltage stability will be communicated in the same manner as other flow gate limits and information”. Jason reviewed The Wind Coalitions comments and the group agreed to strike number 7 in section 2 and revise #5 in section 2.

Action Item: Review the SOL methodology for cross references to RR213.

Jeff Wells (Grand River Dam Authority) moved to approve RR213 Voltage Stability Control as modified, and Laurie Gregg (Lincoln Electric System) seconded the motion. The motion carried without opposition or abstention.

Agenda Item 9 – Chronic Operational Issues.

Will Tootle (Southwest Power Pool) explained the document changes and stated that a dollar threshold was added to the manual commitments section of the document. Will explained the required reconfigurations due to ineffective dispatch. Will explained that reconfigurations that are implemented 25% of the year will be added to the ITP needs list. Will explained that if non-consequential load at risk is 100MWs or greater, the load risk would need to be present 1% of the time. The ORWG made language modifications to the Chronic Operational Issues Criteria. Ron Gunderson (Nebraska Public Power District) asked what a non-consequential load is, and a non-consequential load was explained to be a load that would not be interrupted in the event of a fault.

Jeff Wells (Grand River Dam Authority) moved to approve the Chronic Operational Issues document as modified, and Ron Gunderson (Nebraska Public Power District) seconded the motion. The motion carried without opposition or abstention.

Agenda Item 10 – Review of Document Submissions Guide.

Neil Robertson (Southwest Power Pool) discussed review of the document submission guide. Neil discussed the FTP site and stated he added language that makes entities responsible for the distribution of user names and passwords. Neil stated that TOPs and or BA entities will be granted a single user account. Neil stated he added language for e-mail use that stated “Correspondence from SPP to the submitting entity, such as, confirmations of receipt, results of document reviews, document approvals, and other such correspondence will be emailed to the original submitter of the notification along with other previously identified contacts for the subject topic.” Neil discussed TOP-002-4 operations plans and commented that SPP would not provide acknowledgement receipts. Concerns raised about how to demonstrate compliance if SPP is not going to send an acknowledgement receipt. Neil stated that we could look into creating an enhancement for the FTP site to allow users to generate a report of files with time stamps. Allen Klassen (Westar Energy, Inc.) asked if NPPD submitted an operating plan how would Westar be notified. Ron Gunderson (Nebraska Public Power District) stated he would upload the file to

the FTP site and send an e-mail notification. Neil stated that he would provide a file naming structure, and will make the FTP site optional until we have experience using it.

Action Item: Provide a file naming structure for document submissions to the FTP site.

Agenda Item 11 – IROL Relief Guide Potential Modifications.

Neil Robertson (Southwest Power Pool) discussed the IROL relief guide and stated concerns have been raised about units with shift factors being potential CIP issues. Neil stated if we act on the concerns we would strip the document of the generators and shift factors, and once we take this action we would be left with just the flow gate name. Neil stated if we decide to make this change we would need to consider if the document is still needed. Ron Gunderson (Nebraska Public Power District) discussed CIP-002-5.1 and stated in 2.6 generation at a single plant location or transmission facility at a single station or substation location that identified by its Reliability Coordination, Planning Coordinator, or Transmission Planner as critical to the derivation of IROL and their associated contingencies. The ORWG will continue discussions before taking action on the document.

Agenda Item 12– ICCP update: GMD and ICCP coverage status report.

Tim Miller (Southwest Power Pool) discussed the proposal to treat GMD alerts via ICCP as the notice of GMD events. Tim discussed the specialized data types available by request. Tim reviewed overall real-time data coverage statistics, and discussed the points available in ICCP. Time stated that currently the start date, alert end date, alert start and end time, and Kp index are available. Tim stated that currently improvements are needed for if the alert is active now, and redundancy would also be needed. Tim asked ORWG and proposed to make these points the official notification of GMD events and to remove the e-mail and phone notifications. Allen Klassen (Westar Energy, Inc.) polled the ORWG to determine if this was worth pursuing, and the group stated is was. Tim also discussed the ICCP coverage analysis and showed the points that were filled in with state estimator data. Tim stated he would like to work with the entities to improve the data. Tim provided an update to RR113 and discussed the proposed ICCP survey. Tim asked the ORWG if they would be interested in the results, and the ORWG stated they would.

Action Item: Add the ICCP survey to the next ORWG agenda.

Agenda Item 13– OU Restoration Plan Efforts.

Garrett Crowson (Southwest Power Pool) provided an update to the OU restoration plan. Garrett stated the effort is to work in coordination with Oklahoma University using the Bright start software to review and test existing restoration plans in an effort to optimize the plan or identify and issues with the existing plan. Garrett stated we are using the MDWG 2016 and 2017 summer models to perform the analysis. Garrett stated that OU Staff came to SPP for a week to help input and execute all mapped plans into the Bright Start software, and each mapped plan was placed in the software following the bus to bus path outlined from each restoration plan. Garrett stated that a steady state, transient, and frequency analysis was performed. Garrett stated that when determining the optimal starting path for a black start generator they would plug in only the black start generator and sink generator/load, leaving all other buses between the two to identify the most optimal path. Garrett stated that moving forward we will review all results collected, and retest and paths if needed. Garrett stated that we are planning to produce a report of results for the participating TOPs, and will be scheduling meetings to discuss the results and address any concerns.

Agenda Item 14– Required Participation in SPP PSR Drills.

Neil Robertson (Southwest Power Pool) discussed the list of entities required for participation in the SPP power system restoration plan. Neil stated that SPP is recommending to remove WAPA and proposing to add Tri-State Generation and Transmission Association transmission operator. The ORWG agreed and Neil stated that he would make the modifications to the SPP PSR and return to ORWG with the changes from this agenda item and any change from the next two discussion items.

Agenda Item 15– SPP Restoration Reporting Form in the SPP PSR Drills.

Ron Gunderson (Nebraska Public Power District) discussed the SPP restoration reporting form in the SPP PSR. Ron reviewed the red line comments and added language for determining when interconnections should occur. Ron stated interconnections should include making an unstable island as part of the resulting interconnection. Ron stated the end goal should be to make as much of the system stable as possible. Ron discussed the voltage range requirements at the interconnection location and recommended adding flexibility to the operator. Ron recommended changing how governor reserves are calculated, and suggested removing the spinning reserve calculation. The ORWG reviewed Ron Gunderson’s comments and made language modifications to the document.

Action Item: Make an enhancement to CROW for reporting system restoration outages.

Agenda Item 16– Interconnection Check List Updates in the SPP PSR Plan.

Ron Gunderson (Nebraska Public Power District) suggested changing language for tying islands from the BA area boundaries to transmission area boundaries, since SPP is the BA. Ron suggested revising line 13 and stated that the difference between capacity and actual MWs is unloaded capacity not spinning reserves. Ron stated that spinning reserves is the amount of unloaded capacity that you can realize in 10 to 15 minutes. Ron stated that line 18 “Verify total dynamic reserves are equal to or exceed the MSSC” should be removed from the form because an initial island may not be able to withstand the MSSC, but if the new island is able to withstand the MSSC the interconnection should be made to help improve the reliability of the restored areas. The ORWG decided they would take the document back for review and discussions would continue at future ORWG meetings.

Agenda Item 17– Replicated SPP EMS Server for TO/TOP’s to run studies.

This item was tabled.

Agenda Item 18– RC Communications of SOL exceedances to TOPs.

Terry Oxandale (Southwest Power Pool) explained how SPP will be notifying impacted TOPs of SOL exceedances in next day and real-time assessments as required by IRO-008-2 R3 & R5 and how entities are impacted by the operating plan. Terry explained that flow gates show up in RTCA and when the loading is between 90% and 95% the RC will notify the impacted entities of a potential SOL. Terry stated that if the flow gate goes over 100% it would become an SOL exceedance and the RC would begin the congestion management process. Will Tootle (Southwest Power Pool) explained that in next day operations if potential SOLs are identified they would coordinated with the impacted entities, and depending on the situation a temporary flow gate would be activated an operating guide would likely be developed that could make manual commitments of resources, re-dispatch resources, or reconfigure transmission.

Agenda Item 19– NERC Reliability Standard Activities Update.

Shannon Mickens (Southwest Power Pool) provided an update to the NERC related activities and provided dates for the upcoming workshop, conferences, standard drafting team, standing committee, and conference call meetings. Shannon stated that Project 2016-02 Modifications to CIP Standards is currently posted for comment and the comment period ends on 3/13/17. The drafting team will develop language to address FERC’s Directive pertaining to Communication Network. Additionally, they will propose modifying additional requirements within certain CIP standards to include the provision for CIP Exceptional Circumstances. Shannon also provided an update to Project 2016-03 Cyber Security Supply Chain Risk Management which will address directives from the Federal Energy Regulatory Commission (FERC) Order No. 829 to develop a new or modified standard to address “supply chain risk management for industrial control system hardware, software, and computing and networking services associated with bulk electric system operations.” Shannon stated SPP filed comments on 2/24/17, and stated that the comment period ends on 3/6/17.

Agenda Item 20– Review of Upcoming NERC Reliability Standards.

Neil Robertson (Southwest Power Pool) reviewed the upcoming NERC standards that will go into effect in the short term, and asked the group if they had any concerns or questions that needed discussion. Ron Gunderson (Nebraska Public Power District) discussed TOP-001-R9 1-3 and asked if RTUs should be included in the outage methodology. Ron stated that clarification is for the notification requirements. Neil stated that he would add language to the data specification document for planned and unplanned RTU outages and return to ORWG. Allen Klassen (Westar Energy, Inc.) asked ORWG if anyone has received a waiver do to not being able to meet the data specification requirements. Neil stated we have not received any request at this point.

Action Item: Add language to the data specification document for planned and unplanned RTU outages.

OTHER ITEMS:

Agenda Item 21 – ORWG Member Topic List.

Jason Tanner (Southwest Power Pool) reviewed the list of topics for future meetings. Jason stated that we plan to discuss IROL Re-study Results, Replicated SPP EMS Server for TO/TOP’s to run studies, and SPP PSR Plan, and ICCP Survey at a future ORWG meeting. Jason asked the group if they had additional topics to add, and Allan George (Sunflower Electric Power Corporation) stated he would like to see an educational session on wind turbine capabilities for frequency and voltage. Jason stated he would coordinate with Steve Gaw and The Wind Coalition for a speaker.

Action Item Review

Agenda Items 22/23 – Summary of Action Items

See Page 1 Action Item list.



Agenda Items 20 – Q&A/Open Forum

The group discussed additional locations for meetings and Abu Elteriefi (ITC Holdings) stated he could host a meeting, and Keith Carman (Tri-State Generation and Transmission) stated he would also like to host a meeting.

Agenda Item 21 – Meeting Schedule

- a. 4/4/2017 WebEx (Tues) 0830-1200
- b. 5/3 – 5/4/2017 Face-to-Face (Little Rock) – CONFIRMED
- c. 6/1/2017 WebEx (Thurs) 0830-1200
- d. 6/28 – 6/29/2017 Face-to-Face (Dallas, TX AEP Offices) – CONFIRMED
- e. 8/3/2017 WebEx (Thurs) 0830-1200
- f. 9/7/2017 WebEx (Thurs) 0830-1200
- g. 10/4 – 10/5/2017 Face-to-Face (Sacramento, CA) (CALISO) – TENTATIVE
- h. 11/2/2017 WebEx (Thurs) 0830-1200
- i. 12/7/2017 WebEx (Thurs) 0830-1200

Agenda Item 18 – Adjourn

Chairman Allen Klassen (Westar Energy, Inc.) adjourned the ORWG at 4:49 PM (CST) on 3/1/2017.
Chairman Allen Klassen (Westar Energy, Inc.) adjourned the ORWG at 11:53 AM (CST) on 3/2/2017.

Respectfully Submitted,

Casey Cathey
Secretary



Operating Reliability Working Group
Meeting Attendance: 03/01/2017 - 03/02/2017
M=Member, G=Guest, S=SPP Staff, P= Proxy



day1	day2		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	Kyle McMenamin	M	Xcel Energy
x	x	5	Laurie Gregg	M	Lincoln Electric System
x	x	6	Allan George	M	Sunflower Electric Power Corporation
x	x	7	Jeff Wells	M	Grand River Dam Authority
x	x	8	John Stephens	M	City Utilities of Springfield
x	x	9	Todd Gosnell	M	Omaha Public Power District
x	P	10	Kevin Ma proxy for Bryn Wilson	M	Oklahoma Gas and Electric Co.
x	x	11	Dennis Sauriol	M	American Electric Power
P	P	12	Mike Kidwell proxy for 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	Tina Adams	G	Western Farmers Electric Cooperative
x		19	Jerry Bradshaw	G	City Utilities of Springfield
x		20	Scott Williams	G	City Utilities of Springfield
x	x	21	Jason Mazigian	G	Basin Electric Power Cooperative
x		22	Jeff Knottek	G	City Utilities of Springfield
x	x	23	MERConsulting	G	MERConsulting
x	x	24	Chris Lyons	G	Customized Energy Solutions
x		25	Denney Fales	G	Kansas City Power & Light
x		26	Kevin Foflygen	G	City Utilities of Springfield
	x	27	Jeff Elting	G	Nebraska Public Power District
	x	28	Bob Cochran	G	Xcel Energy
x	x	29	Tanner New	G	Sunflower Electric Power Corporation
x	x	30	Kevin Ma	G	Oklahoma Gas and Electric Co.
x	x	31	Mark Eastwood	G	City Utilities of Springfield
x	x	32	Neal Faltys	G	Omaha Public Power District
x	x	33	Ron Thompson	G	Nebraska Public Power District
x	x	34	John Boshears	G	City Utilities of Springfield
x	x	35	Jamie Hajek	G	NorthWestern Energy
x	x	36	John Allen	G	City Utilities of Springfield
x	x	37	Terry Gates	G	American Electric Power
x	x	38	Steve Gaw	G	The Wind Coalition
x	x	39	Tom Mayhan	G	Omaha Public Power District
x	x	40	Casey Cathey	S	Southwest Power Pool
x	x	41	Jason Tanner	S	Southwest Power Pool
x	x	42	Neil Robertson	S	Southwest Power Pool
	x	43	John Gunter	S	Southwest Power Pool
x	x	44	Derek Hawkins	S	Southwest Power Pool
x		45	Aaron Shipley	S	Southwest Power Pool
x		46	Kristen Kitchens	S	Southwest Power Pool
	x	47	Jon Langford	S	Southwest Power Pool
x		48	Jodi Woods	S	Southwest Power Pool
x		49	Garrett Crowson	S	Southwest Power Pool
x		50	Tim Miller	S	Southwest Power Pool
x	x	51	Will Tootle	S	Southwest Power Pool
	x	52	Joshua Phillips	S	Southwest Power Pool
	x	53	Terry Oxandale	S	Southwest Power Pool
	x	54	Shannon Mickens	S	Southwest Power Pool
x	x	55	Thomas Teafatiller	S	Southwest Power Pool RE