

Southwest Power Pool, Inc.

VOLTAGE TASK FORCE

Net Conference

Wednesday October 26, 2016 8:30 a.m. - 12:00 p.m.

• 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: Research development of a GI study process manual.
2. Action Item: Submit individual area data for the VIS.

Consent Agenda

Neil Faltys (Omaha Public Power District) moved to approve the Consent Agenda, and Mark Ahlstrom (NextEra Energy Resources, WindLogics) seconded the motion. The motion was approved without opposition or abstention.

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• M I N U T E S •

Administrative Items / Attendance / Agenda Review

Jerry Bradshaw (City Utilities of Springfield, Mo) Proxy for Chairman Mark Eastwood (City Utilities of Springfield, Mo) called the VTF to order at 8:32 AM on 10/26/2016

Jason Tanner (Southwest Power Pool) called attendance.

Jerry Bradshaw reviewed the agenda, and Sakshi Mishra (American Electric Power) requested to add an additional agenda item “Voltage Stability Triangle”.

Consent Agenda

Neil Faltys (Omaha Public Power District) moved to approve the Consent Agenda, and Mark Ahlstrom (NextEra Energy Resources, WindLogics) seconded the motion. The motion was approved without opposition or abstention.

Approval Items and Staff Reports for Discussion

Agenda Item 5 – New Resources Impact GI and System Impact studies

Steve Purdy, Sunny Raheem, and Ray Offenbacker (Southwest Power Pool) discussed agenda item 5 New Resources Impact GI and System Impact studies. Sunny reviewed how the SPP GI group models and assess scenarios for GIAs. Sunny explained the differences between steady state and GI, and what study procedures are used for interconnection agreements. Kevin Ma (Oklahoma Gas and Electric) asked if the study procedures are documented. Sunny stated that the criteria used for the GI process is vetted by the TWG, but he is open for discussions on recommendations to enhance the GI process.

Action Item: Research development of a GI study process manual.

Agenda Item 6 – Single-and Multiple-Contingency for VSA

Kevin Ma (Oklahoma Gas and Electric) provided clarification for Single-and Multiple-Contingency for Voltage Stability Assessment. Kevin explained the contingency definitions in TPL-001-0 and stated that multiple contingencies can be related such that a failure of one element results in other elements failing due to protective relays operating. Kevin stated that NERC hasn’t provided a clear definition in its Glossary of Terms for neither single nor multiple contingencies. But different types of single- and multiple-contingencies have been specified in TPL standard. Kevin stated that the VTF could define Multiple Contingency as *“The failure or outage of two or more elements that are related by accidents or failures of breakers or protective relays instead of by design. Had they occurred at different times, they would be two separate single-element contingencies”*.

Agenda Item 7 – VIS Reporting Results

Frederic Howell (Powertech Labs) the preliminary results of the Variable Generation Integration Study. Frederic explained some modeling concerns that were identified and asked Bruce Cude (Xcel Energy) if the Amoco load was scalable, Bruce stated it was not and recommended that PLI re-evaluate the models what the adjusted load value of 130MWs. Frederic discussed the Woodward phase shifting transformer and stated that PLI included an additional transfer for the 2017 case that included the phase shifter set at 15 degrees. Frederic asked if this was an acceptable angle, and Kevin Ma (Oklahoma Gas and Electric) stated that it was acceptable. The VTF members asked if SPP could submit the individual area data for review and Jason Tanner (Southwest Power Pool) stated that we could.

Action Item: Submit individual area data for the VIS.

Agenda Item 8 – Voltage Stability Control with OP-3

Jason Tanner (Southwest Power Pool) discussed Voltage Stability Control with OP-3. Jason reviewed comments submitted, and the VTF recommended accepting the comments submitted by NPPD. The VTF determined that one additional meeting may be required before submitting the proposed RR into the official process.

Agenda Item 9 – Voltage Stability Triangle

Sakshi Mishra (American Electric Power) explained the DOE research project for PV Curves and Angle Separations. Sakshi explained that load bus angle separation is rarely analysis in voltage stability analysis. Sakshi stated that by using a triangle voltage stability index from the voltage stability triangles then the apex of the PV curve could be determined when the triangle voltage stability index number equals 1. Sakshi explained when analyzing voltage stability we monitor basecase and contingency voltage magnitudes at a bus to screen for high and low voltages. Sakshi explained if we use the Voltage Stability Triangle we could monitor the voltage magnitudes and phase angles across a branch.

Agenda Item 10 – Meeting Schedule

- a. 11/30/2016, Net Conference, 0830-1200

Agenda Item 11 – Adjourn

Jerry Bradshaw (City Utilities of Springfield, Mo) adjourned the VTF at 11:56 AM on 10/26/2016.

Respectfully Submitted,

Jason Tanner
Secretary



Voltage Task Force
Meeting Attendance: 10/26/2016
M=Member, G=Guest, S=SPP Staff, P= Proxy



Day 1	Name	Status	Company
P	1 Chariman Mark Eastwood	M	City Utilities of Springfield
a	2 Jim Useldinger	M	South Central MCN
P	3 Kevin Harrison	M	ITC Holdings Corp.
x	4 Sakshi Mishra	M	AEP Service Corporation
x	5 Mark Ahlstrom	M	NextEra Energy Resources, WindLogics
x	6 Feng (Kevin) Ma	M	Oklahoma Gas and Electric
a	7 Rouslan Tzartzev	M	EDP Renewables
a	8 Clinton Bruhn	M	Lincoln Electric System
x	9 Kyle Drees	M	Westar Energy
x	10 Dustin Betz	M	Nebraska Public Power District
x	11 Neal Faltys	M	Omaha Public Power District
x	12 Jerry Bradshaw	P	Proxy for Mark Eastwood
x	13 Jillian Henderson	P	Proxy for Kevin Harrison
x	14 Bryn Wilson	G	Oklahoma Gas and Electric
x	15 Brian Johnson	G	AEP Service Corporation
x	16 Gang(George) Zheng	G	Powertech Labs
x	17 Frederic Howell	G	Powertech Labs
x	18 Tanner New	G	Sunflower Electric
x	19 Allan George	G	Sunflower Electric
x	20 Al Tamimi	G	Sunflower Electric
x	21 Robert Hirschak	G	Cleco
x	22 Kyle McMenamin	G	Xcel Energy
x	23 Bruce Cude	G	Xcel Energy
x	24 Steve Gaw	G	The Wind Coalition
x	25 Will Tootle	S	Southwest Power Pool
x	26 Jason Tanner	S	Southwest Power Pool
x	27 Casey Cathey	S	Southwest Power Pool
x	28 Harvey Scribner	S	Southwest Power Pool
x	29 Kevin Sanson	S	Southwest Power Pool