



Southwest Power Pool, Inc.
Model Development Working Group
Doubletree Stapleton North - Aspen III BC
4040 Quebec Street
Denver, Colorado 80216
May 9th: 8:00 A.M. – 5:00 P.M. (MDT)
May 10th: 8:00 A.M. – 12:00 P.M. (MDT)

• M I N U T E S •

Agenda Item 1 – Administrative Items:

– Agenda Item 1a and 1b – Call to Order & Antitrust Statement:

The meeting was called to order at approximately 8:00 a.m. on May 9th and 10th. The SPP Antitrust statement was read to the group at the start of the meeting on May 9th and 10th.

– Agenda Item 1c and 1d – Attendance and Proxies:

The following MDWG members and guests attended.

MDWG Members present:

MDWG Member	Present	Proxy	Present	Company
Nate Morris	YES			Empire District Electric Company
Derek Brown	YES			Westar Energy
Dustin Betz	YES			Nebraska Public Power District
John Boshears	YES			City Utilities of Springfield
Jerad Ethridge	YES			Oklahoma Gas & Electric
Joe Fultz	YES			Grand River Dam Authority
Wayne Haidle	YES			Basin Electric Power Cooperative
Holli Krizek	YES			Western Area Power Administration
Reené Miranda	YES			Southwestern Public Service
Alex Mucha	YES			Oklahoma Municipal Power Authority
Gimod Olapurayil	YES			ITC Great Plains
Scott Schichtl	YES			Arkansas Electric Cooperative Company
Jason Shook	YES			GDS Associates
Liam Stringham	NO	Tanner New	YES	Sunflower Electric Power Corporation
Sunny Raheem	YES			Southwest Power Pool, Inc.

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Additional Guests present:

Guests	Company
Martin Green	American Electric Power
Jeff Crites, Jerry Bradshaw, Kevin Foflygen	City Utilities of Springfield
Jordan Lamb	East River Electric
Syed Ahmad	Federal Energy Regulatory Commission
Mark Reinart, Charles Aleman	Golden Spread Electric Coop
Dona Parks, Kiet Nguyen	Grand River Dam Authority
Charles Shue	ITC Great Plains
Marc Moor, Ryan Baysinger, Lafayette Gatewood IV	Kansas City Power & Light
John Payne	Kansas Electric Power Cooperative
Alan Burbach	Lincoln Electric System
Jence Mandizha	Midwest Energy
Andy Berg, John Weber	Missouri River Energy Services
Bruce Doll	Municipal Energy Agency of Nebraska
Jarrod Wolford	Northeast Texas Electric Cooperative
Daryl Huslig,	Oklahoma Gas & Electric Company
John Mayhan	Omaha Public Power District
Shawnee Claiborn-Pinto	Public Utility Commission of Texas
Dave Sargent, Scott Mijin	Southwest Power Administration
Eddie Watson, Anthony Cook, Michael Odom, Zack Bearden, Jeff McDiarmid, Scott Jordan	Southwest Power Pool, Inc.
Aravind Chellappa	Southwestern Public Service
Tanner New	Sunflower Electric Power Cooperative
Christopher Gilden, Cody Sickler	Tri-State Generation and Transmission
Jeremy Harris, Clifford Franklin	Westar Energy
Josie Daggett	Western Area Power Administration
Joe Williams, Shaun Golden	Western Farmers Electric Coop

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– **Agenda Item 1e(i) – Agenda Review (Action Item):**

Nate Morris asked the group if they had any modifications to the agenda or issues with the posted material. The group did not voice any agenda modifications or issues.

Nate opened the floor to entertain a motion.

Motion: Dustin Betz motioned to approve the agenda as presented during the meeting (Attachment 1 - 1e. MDWG Meeting Agenda 2018050910.docx). Jerad Ethridge seconded the motion. The motion passed unanimously.

– **Agenda Item 1f(i) – April 5th, 2018 Meeting Minutes Review (Action Item):**

Nate Morris asked the group if they had any modifications or issues with the posted meeting minutes. The group did not voice any meeting minutes' modifications or issues.

Nate opened the floor to entertain a motion.

Motion: Gimod Olapurayil motioned to approve to the meeting minutes as presented during the meeting (Attachment 2 – 1f. MDWG Minutes April 5, 2018-04232018.docx). Jason Shook seconded the motion. The motion passed with no opposed and one abstained. Dustin Betz abstained because he was not present at the April 5th meeting.

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Agenda Item 2 – MOPC Recap for MDWG Charter:

Sunny Raheem presented highlights of the charter discussion during the April MOPC call. Nate Morris briefly discussed what transpired at the MOPC and the discussion about the MDWG considering more membership. Nate then asked the group if they had any thoughts on the structure of membership of the MDWG. Joe Fultz recalled that during MOPC discussion it was mentioned that any person submitting data to MOD should have a seat at the MDWG.

The group discussed several different possible suggested requirements and qualification for membership such as SPP members registered as Transmission Providers (TPs), active data submitter with suspension of voting for non-active participates, and tying vote to the company rather than the individual.

Moses Rotich mentioned to keep in mind that the SPP bylaws state that except for a full representational group (MOPC), all appointments to SPP organizational groups will be on an individual basis and not by corporate entity. Anthony Cook commented that it be beneficial to find out which companies actually want a seat at the MDWG. Anthony mentioned when he was the MDWG secretary, he received very few nominations. Some of the nominations for individuals were not completely aware of the effort.

Action Item: Nate asked the group including non-voting members to come with possible ideas on the framework of membership and any concerns at the next MDWG call.

Action Item: SPP-Staff to send out a survey to TPs to gauge interest for a voting seat at the MDWG and bring this information to the next MDWG meeting.

Agenda Item 3 – 2018 MDWG Dynamics Model Build Update:

Michael Odom gave an update on the 2018 series MDWG dynamic models. Michael stated that the next milestone is 05/28/2018 for initialization messages. Michael stated that the build is slightly behind on schedule but SPP is working on mitigation plans to get it back on schedule. Eddie Watson reiterated that SPP is currently in mitigation status to get the schedule up-to-date and is looking to get more experience to get it caught up.

Agenda Item 4 – 2018 Geomagnetic Disturbance (GMD) Model Update:

Scott Jordan presented an overview of the objective of Geomagnetic Disturbance (GMD) Models. Scott provided a NERC TPL-007-1 standard and requirements summary. Scott provide an overview of the Transmission Planning Task Force's (TPLTF) takeaways for the TPL-007-1 standards. Scott provided an update on the Geomagnetically Induced Currents (GIC) data gathering, model build, and future milestone dates.

Action Item: SPP-Staff GMD Presentation after the meeting (Attachment 3 - 4. GMD_MDWG_Update.pdf).

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Agenda Item 5 – Acceptable Dynamic Model Discussion:

Michael Odom presented the Acceptable Dynamic Model Discussion. Michael communicate the concern around user-written dynamic models that are not documented well. After communicating concerns, Michael initiated the acceptable dynamic model list discussion with the group.

Reené Miranda mentioned that MOD-032 states that user written models are required to provide the documentation associated with the models. Joe

Joe Fultz stated concerns about GRDA and possibly other members validating models to meet MOD-026/27 requirements after reading some NERC white papers. Sunny Raheem stated that it might be a good idea to have the list vetted by TWG since it could have possible affects TPL and Generator Interconnection studies.

The group also discussion who the responsible entity is for providing the acceptable list to Generator Owners. The group mentioned that SPP, as the PC, should be involved throughout the process per MOD-026/27.

Action Item: MDWG Manual Task Force will review criteria that other regions are using and construct some language for the manual.

Action Item: Nate Morris to take this topic to the May TWG meeting next week and provide an update at the next MDWG meeting.

Action Item: SPP-Staff to send out NERC acceptable dynamic model list

Agenda Item 6 – Untimely Submission Survey Results & Recommendations:

Sunny Raheem presented the results and recommendations from the Untimely Submission Survey. The group mentioned it is important to know when data submitters receive data internally and can submit to SPP. It is also important to understand how much the data is changing from year to year. Some members mentioned they receive their forecasts around September/October timeframe but it is a big internal effort to process that data before it is ready for submission to SPP but the current schedules are very constrained.

Nate Morris asked the group for their thoughts on additional automation checks. The group mentioned automation for members to check their loads in the MOD base case before actually submitting a profile or project update in MOD.

Action Item: SPP-Staff to find out if members can build out of MOD so that they can make sure updates applied correctly before SPP actually builds out of MOD.

Action Item: SPP-Staff to follow up to see if members can use SPP DocuCode script externally.

Action Item: SPP-Staff to identify if producing a monthly base case for all entities starting in May or June is achieve and would not require significant additional effort.

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Agenda Item 7 – MOD Base Profile Discussion:

Moses Rotich presented the MOD Base Profile Discussion. Moses briefly discussed the issue that some data submitters have with static device control profiles from the 2018 model series. Moses mentioned some data submitters would like to request the removal of these items from the base profiles and allow some entities the opportunity to make those type changes using MOD projects rather than device control profiles. The group mentioned to address this discussion offline as required by the interested data submitters.

Agenda Item 8 – 2019 MDWG Powerflow/Short Circuit Model Build:

- Agenda Item 8a – PSS@E and MOD Version:

Sunny Raheem communicate PSS@E v33.11 is compatible with the associated MMWG build and SPP-Staff plans to keep the same version of MOD as the 2018 MDWG model built. Nate Morris asked the group if anyone had any concerns pertaining to the PSS@E or MOD version. The group did not voice concerns regarding this topic.

- Agenda Item 8b – Schedule (Approval Item*):

Sunny Raheem presented the two staff developed schedule options to the group for the upcoming 2019 MDWG/2020ITP model build. Sunny mentioned the key differences between the two schedules and the differences between the proposed 2019 MDWG/2020 ITP schedules compared to the previous 2018 MDWG/ 2019 ITP model build schedule. Eddie Watson communicated the need for possible improvements in the model build to align with the different ITP and Economic model milestones.

Nate Morris asked the group including Transmission Provides, Planning Coordinators, and MDWG members, for a straw poll on which of the two options the group is leaning towards. The straw poll results showed the group heavily favoring Option 2 with the January 11th lock down date for final data submission. The group further discussed the best placement for the face-to-face meeting during the model build schedule. The group also discussed at length the need for solved initial models in the earlier passes. Staff communicated the requirement for additional time for developing preliminary solved models. The group agreed to allocate more SPP-Staff time in Pass 0 and 1 for developing preliminary solved models. After discussion and review from the group, SPP-staff updated Option 2 with the group discussed changed implemented. The updated Option 2 schedule was presented to the group.

Nate opened the floor to entertain a motion for approval of the updated Option 2 2019 MDWG/ 2020ITP model build schedule.

Motion: Jerad Ethridge motioned to approve the Option 2 2019 MDWG model build schedule as edited during the meeting. Derek Brown seconded the motion. The motion passed unanimously. (Attachment 4 – 8b. 2019 MDWG Schedule Draft.pdf).

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- Agenda Item 8c – Model Selections (Approval Item*):

Sunny Raheem presented the current Model Selections for MMWG, MDWG, and internal SPP study requirements. The group discussed at length the need for various models. Many in the group voiced concerns of various models and the continual need for them. The group reviewed the number of models in efforts of reducing the number of models or seasonal data submission. The group requested additional follow up from SPP-Staff to gather justification from SPP internal groups requiring particular seasonal models that are not required for MDWG or MMWG. Additionally, the group requested staff to compare some models from the 2018 build to review how relatively close some of the similar seasonal models are for generation and load forecasts. Nate and SPP-Staff communicated the importance of each stakeholder discussing the number of models and requirements with their TWG and ESGW representatives.

Action Item: SPP-Staff to compare some models from the 2018 series to and bring the results as informational material to the next MDWG meeting i.e., load, gen, topology

Action Item: Members to discuss the model list with their TWG and ESGW representatives

Action Item: SPP-Staff to compare some models from the 2018 series to and bring the results as informational material to the next MDWG meeting i.e., load, gen, topology

- Agenda Item 8d – Onboarding (Modeling process and MOD) Training:

Nate asked the group if there was interest in MOD and model building on boarding. The group expressed interest in additional training.

Action Item: SPP-Staff to send out survey to identify time for MOD training in June or July. SPP-Staff to work on developing on-boarding material for model building process.

Agenda Item 9 – MDWG Manual:

- Agenda Item 9a – Manual Task Force Update:

Michael Odom provided a recap of recent activity from the MDWG manual task force. Michael provide a summary of manual language changes.

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- Agenda Item 9b – Language Approval (Approval Item*):

Michael Odom presented the revisions to the accountability section in the MDWG manual.

After group discussion, Nate Morris opened the floor to entertain a motion for the accountability section language changes.

Motion: Jerad Ethridge made the motion approve the scope of applicability and accountability section as presented. Jason Shook seconded it. The motion passed unanimously.

Michael Odom presented the revisions to the load section in the MDWG manual. The group discussed concerns for normal load growth situations. The group requested to modify the language as presented to account for the concerns raised during the meeting.

Motion: Alex Mucha made the motion to approve the attachment AQ language as modified on the screen. Derek Brown seconded. The motion passed unanimously.

Michael Odom presented the revisions to the sequence data section in the MDWG manual. The group discussed if situation occurred when negative and positive sequence are different. Many in the meeting agreed that there was no need to add negative sequence data in the redline changes.

Motion: Jerad Ethridge made the motion to approve the changes presented in section C, PTI PSSE Short circuit format. Holli Krizek seconded. John Boshears voted no. The motion passed.

Action Item: Nate Morris asked that John Boshears provide the reason for his no vote to SPP-Staff

Action Item: MDWG manual TF to review language adding negative sequence data to the branch section.

- Agenda Item 9c – Power Flow, Dynamics, Short Circuit Task Force Discussion:

Tabled for the next meeting

Agenda Item 10 – 2018 Series ITP to MMWG Conversion Discussion:

Tabled for the next meeting

Agenda Item 11 – 2019 MDWG Models dispatched by SPP Discussion:

Tabled for the next meeting

Agenda Item 12 – Engineering Data Submission Tool (EDST) Status:

Sunny Raheem briefly provided a status update for the Engineering Data Submission Tool. Sunny mentioned the milestone dates are included in the meeting background material for reference.

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Agenda Item 13 – Administrative Items:

- Agenda Item 13a – Summary of Action Items:

- MDWG to identify draft framework of membership
- SPP-Staff to send out a survey for voting membership
- SPP-Staff to send out GMD Presentation
- MDWG Manual Task Force manual language changes
- Nate Morris to take acceptable dynamic model list discussion to TWG
- SPP-Staff to send out NERC acceptable dynamic model list
- SPP-Staff research MOD build out capability for data submitters
- SPP-Staff to follow up on external SPP DocuCode script
- SPP-Staff to identify if producing a monthly base case
- SPP-Staff to compare similar 2018 seasonal models
- SPP-Staff to send out survey to identify time for MOD training in June
- SPP-Staff to work on developing on-boarding material
- Nate asked that John Boshears provide the reason for his no vote to SPP-Staff
- MDWG manual TF to review language adding negative sequence data to the branch section.

- Agenda Item 13b – Future Meetings:

Nate Morris asked Sunny Raheem to provide a recap of the upcoming future meetings. Sunny mentioned the upcoming June MDWG conference call. Sunny requested to extend the June 7th meeting from a duration of 1.5 hours to 3 hours. The group did not voice any concerns of the meeting duration change.

- Agenda Item 13c – Adjourn Meeting:

With no further discussion, Nate solicited a motion to adjourn the meeting.

Motion: Alex Mucha motioned to adjourn the meeting. Joe Fultz seconded it. The motion passed unanimously.

The meeting was adjourned at 12:03PM (MDT).

Respectfully submitted,
Sunny Raheem
SPP Staff Secretary



Southwest Power Pool, Inc.

MODEL DEVELOPMENT WORKING GROUP

May 9-10, 2018

Doubletree Stapleton North - Aspen III BC
4040 Quebec Street
Denver, Colorado 80216

• A G E N D A •

May 9: 8:00 p.m. – 5:00 p.m.
May 10: 8:00 p.m. – 12:00 p.m.

- 1. Administrative Items Nate Morris
a. Call to Order
b. Antitrust Statement
c. Attendance
d. Proxies
e. Agenda Review (Approval Item)
i. Acknowledgement of discuss meeting materials
f. Previous Meeting Minutes
i. April 5th, 2018 (Approval Item)
2. MOPC Recap for MDWG Charter Sunny Raheem
3. 2018 MDWG Dynamics Model Build Update Scott Jordan/Sunny Raheem
4. 2018 Geomagnetic Disturbance (GMD) Model Update..... Scott Jordan
5. Acceptable Dynamic Model Discussion Scott Jordan/Sunny Raheem
6. Untimely Submission Survey Results & Recommendations Sunny Raheem
7. MOD Base Profile Discussion Moses Rotich
8. 2019 MDWG Powerflow/Short Circuit Model Build
a. PSS@E and MOD Version All
b. Schedule (Approval Item*) All
c. Model Selections (Approval Item*) All
d. Onboarding (Modeling process and MOD) Training All
9. MDWG Manual
a. Manual Task Force Update All
b. Language Approval (Approval Item*) All
c. Power Flow, Dynamics, Short Circuit Task Force Discussion Nate Morris
10. 2018 Series ITP to MMWG Conversion Discussion Moses Rotich
11. 2019 MDWG Models dispatched by SPP Discussion Moses Rotich

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- 12. Engineering Data Submission Tool (EDST) Status.....Sunny Raheem/Eddie Watson
- 13. Administrative Items Nate Morris
 - a. Summary of Action Items
 - b. Future Meetings
 - c. Adjourn

Note: The approval items denoted with “*” shall be jointly developed by PC, TP, and MDWG

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Southwest Power Pool, Inc.
Model Development Working Group
Conference Call
April 5th: 10:30 A.M. – 12:00 P.M. (CDT)

• M I N U T E S •

Agenda Item 1 – Administrative Items:

– Agenda Item 1a – Call to Order:

The meeting was called to order at approximately 10:33 a.m and the SPP Antitrust statement was read to the group.

– Agenda Item 1b,c – Attendance and Proxies:

The following MDWG members and guests attended.

MDWG Members present:

MDWG Member	Present	Proxy	Present	Company
Nate Morris	YES			Empire District Electric Company
Derek Brown	YES			Westar Energy
Dustin Betz	NO	Jason Hofer	NO	Nebraska Public Power District
John Boshears	YES			City Utilities of Springfield
Jerad Ethridge	YES			Oklahoma Gas & Electric
Joe Fultz	YES			Grand River Dam Authority
Wayne Haidle	YES			Basin Electric Power Cooperative
Holli Krizek	YES			Western Area Power Administration
Reené Miranda	YES			Southwestern Public Service
Alex Mucha	YES			Oklahoma Municipal Power Authority
Gimod Olapurayil	YES			ITC Great Plains
Scott Schichtl	NO			Arkansas Electric Cooperative Company
Jason Shook	YES			GDS Associates
Liam Stringham	YES			Sunflower Electric Power Corporation
Sunny Raheem	YES			Southwest Power Pool, Inc.

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Additional Guests present:

Guests	Company
Martin Green	American Electric Power
Jeremy Severson	Basin Electric Power Cooperative
Ellis Lutz	Associated Electric Coop
Jeff Crites, Jerry Bradshaw	City Utilities of Springfield
Jordan Lamb	East River Electric
Mark Reinart	Golden Spread Electric Coop
Dona Parks	Grand River Dam Authority
Charles Shue	ITC Great Plains
Marc Moor, Ryan Baysinger, Lafayette Gatewood IV, Tien Le	Kansas City Power & Light
Alan Burbach	Lincoln Electric System
Sam Zewdie	Midwest Reliability Organization
John Weber	Missouri River Energy Services
Armin Sehic, Bruce Doll	Municipal Energy Agency of Nebraska
Daryl Huslig, Hermes Arevalo, James Thomas	Oklahoma Gas & Electric Company
John Mayhan, Tom Mayhan	Omaha Public Power District
Dave Sargent, Scott Mijin	Southwest Power Administration
Eddie Watson, Anthony Cook, Michael Odom, Zack Bearden, Mitch Jackson, Moe Shahriar, Theva Chanthaseny	Southwest Power Pool, Inc.
Aravind Chellappa, Frank Favela	Southwestern Public Service
Liam Stringham, Tanner New	Sunflower Electric Power Cooperative
Christopher Gilden	Tri-State Generation and Transmission
Jeremy Harris	Westar Energy
Chris Colson, Garrick Nelson, Josie Daggett	Western Area Power Administration
Shaun Golden	Western Farmers Electric Coop

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– **Agenda Item 1d – Agenda Review (Action Item):**

Nate Morris asked the group if they had any modifications to the agenda or issues with the posted material.

Reené Miranda requested adding an agenda discussion item for additional short circuit checks. Reené explained the need for a screening fault analysis to ensure short circuit models are in correct working order. Zack Bearden added to the discussion about adding another check for type 4 bus codes. Nate and the group recommended adding Short Circuit Model Validation Checklist as item 6.d. to the meeting agenda.

After discussion, Nate opened the floor to entertain a motion.

Motion: Derek Brown moves to approve the agenda as edited during the meeting (Attachment 1 - 1d. MDWG Meeting Agenda 20180405_Redline.docx). Alex Mucha seconded the motion. The motion passed unanimously.

– **Agenda Item 1e(i) – March 1st, 2018 Meeting Minutes Review (Action Item):**

Nate Morris asked the group if they had any modifications to the agenda or issues with the posted material. The group identified a few typos in the March 1st meeting minutes and request to correct them. Sunny Raheem corrected the typos in redline format and presented the changes to the group.

After discussion, Nate opened the floor to entertain a motion.

Motion: Jerad Ethridge moves to approve to the meeting minutes as edited (Attachment 2 - 1ei. MDWG Minutes March 1, 2018_04052018_Redline.docx). Jason Shook seconded the motion. The motion passed unanimously.

– **Agenda Item 1e(ii) – March 9th, 2018 Meeting Minutes Review (Action Item):**

Nate Morris asked the group if they had any modifications to the agenda or issues with the posted material. The group identified a few typos in the March 9th meeting minutes and requested to correct them. Sunny Raheem corrected the typos in redline format and presented the changes to the group.

After discussion, Nate opened the floor to entertain a motion.

Motion: Jason Shook moves to approve to the meeting minutes as edited (Attachment 3 - 1eii. MDWG Minutes March 9, 2018_04052018_Redline.docx). Derek Brown seconded the motion. The motion passed unanimously.

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Agenda Item 2 – 2018 MDWG Dynamics Model Build Update:

Moe Shahriar provided the group an update for the 2018 MDWG dynamics model build. Moe mentioned SPP Staff is currently working on the master dynamic (dyr) file. Moe stated that he has accepted a position external to SPP and request data submitters to continue contacting Michael Odom for dynamic model information.

Derek Brown and group questioned the transition and timing for submitting updates particularly for MOD 26 & 27 testing. Eddie Watson mentioned SPP staff is working on a transition plan for Moe's responsibilities currently and will update the group at the next MDWG meeting.

Nate Morris and the group thanked Moe for his time, support, and flexibility. The group stated that Moe worked well with the members. Eddie Watson communicated his support for Moe and farewell.

Agenda Item 3 – MDWG Manual Task Force Update (Action Item):

Michael Odom led the group in the MDWG Manual Task Force Update discussion. Michael presented the manual subsections A, B, and C. Chris Colson mentioned the language was previously presented in the fall of 2017. However, some edits were made since the last time the language was presented. The group reviewed the proposed redline language and provided feedback. The feedback and discussion included updating applicable references to "Good Utility Practice", developing an understanding and updating consistent language for BES, Non-BES, and Tariff facilities, agreeing upon accurate references to MOD 032 Data Submitter/Owner, and vetting OATT references. Sunny Raheem updated the redline language in the manual based on discussion and agreement amongst members during the meeting (**Attachment 4 - 3. SPP MDWG Model Development Procedure Manual Accountability Language_04052018_Redline.docx**).

After a lengthy discussion, Nate Morris requested to table the discussion for the next future meeting. Nate reminded the group of the remaining agenda items and meeting time left.

The group mentioned they would like a reference to the modeling contacts.

AL: SPP Staff to send link to modeling contacts and meeting times. The modeling contacts are posted on [GlobalScape](#) at the following directory: **Modeling (CEII, RSD)→MDWG Powerflow→SPP Modeling Contacts**

Agenda Item 4 – Untimely Submission Survey Review:

Michael Odom presented the Untimely Submission Survey Presentation. Michael presented the high-level purpose and scope for the survey. Eddie Watson and Sunny Raheem mentioned the benefits of SPP Staff understanding the results of the survey to assistance in continual improvement and model build coordination to the group.

AL: SPP Staff to send out Untimely Submission Survey to data submitters. Completed 4/10/2018.

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Agenda Item 5 – Preliminary 2019 MDWG Power flow/Short Circuit Model Build Schedule Update:

Sunny Raheem updated the group about the status of the 2019 MDWG/Short Circuit Model Build Schedule. Sunny mentioned SPP Staff has a preliminary schedule developed that is currently under review by SPP management for internal approval. Nate Morris requested a preview of the preliminary schedule if time allows during the Engineering Data Submission Tool (EDST) large group testing on April 25th. Nate also voiced his encouragement for data submitters to attend the EDST large group testing meeting on April 25th.

AL: SPP Staff to send out preliminary schedule

Agenda Item 6 – Misc.:

– Agenda Item 6a – Siemens Aha Ideas:

Sunny Raheem briefly mentioned the purposed of Siemens Aha Ideas and the benefits. Sunny mentioned the Siemens Aha Ideas are typically driving by quantity of votes.

– Agenda Item 6b – 2018 Series ITP to MMWG Conversion Update:

Sunny Raheem mentioned Moses Rotich is leading ITP to MMWG conversion effort. Sunny mentioned Moses has started working internally to follow up on feedback for the conversion effort with SPP planning staff and SPP Legal. SPP Legal mentioned concerns about implementing dispatch from ITP to MDWG models and if it is classified as resource specific information. The dispatch concern requires further information and investigation on how it would relate to the SPP Non-Disclosure Agreements (NDA).

Nate Morris asked when SPP Legal would have their recommendation on the legal concerns pertaining to the ITP to MMWG conversion. Anthony Cook mentioned it would be unlikely it would be before the 2019 MDWG model build starts. Nate requested SPP Staff come with a recommendation to the May Face-To-Face meeting for the conversion efforts. Anthony recommended the group to plan for business as usual for dispatching because of the short lead-time until the 2019 MWDG model build starts.

– Agenda Item 6c – 2019 MDWG Models dispatched by SPP Update:

The group acknowledged similar concerns for the 2019 MDWG Models dispatched by SPP as Agenda Item 6b. The group asked staff to find out all pros and cons for using 2019 MDWG models dispatched by SPP Staff.

– Agenda Item 6d – Short Circuit Model Validation Checklist

Nate Morris asked Reené Miranda to help lead the discussion for Short Circuit Model Validation Checklist based on concerns raised during the agenda review earlier in the meeting. Reené described the short circuit model approval. Reené mentioned SPS's experience this year when running a fault with the short circuit models. Reené recommended the group might consider adding a screening fault analysis prior to approving the models as final. The screening fault analysis could include a balanced three phase and/or single phase to ground fault.

Antitrust: SPP strictly prohibits use of participation in SPP activities as a forum for engaging in practices or communications that violate the antitrust laws. Please avoid discussion of topics or behavior that would result in anti-competitive behavior, including but not limited to, agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition.

AL: SPP Staff to look at possibility of running a screening fault for short circuit models.

Agenda Item 7 – Administrative Items:

- Agenda Item 7a – Summary of Action Items:

- AL: Send link to modeling contacts.
- AL: Send out Untimely Submission Survey.
- AL: Explore schedule possibilities for the fault run short circuit.
- AL: Send out preliminary schedule
- AL: Send out draft agenda for May face-to-face meeting.

- Agenda Item 7b – Future Meetings:

Nate Morris asked Sunny Raheem to provide a recap of the upcoming future meetings. Sunny went over the future meetings schedules for the next few months including the EDST large group testing meeting. Sunny described how May 9-10th was selected as the face-to-face meeting dates based on member availability results from the Doodle poll. The group was asked to verify they are certain they would like to meet the week before TWG. Majority of the group confirmed May 9-10 was acceptable for their schedules.

Chris Colson mentioned the May draft agenda has not been release to non-voting group members. Sunny Raheem stated he would take that action item and provide the draft may meeting agenda.

AL: SPP Staff send out draft May agenda. The draft May agenda is posted with the April 5th meeting minutes (Attachment 5 - 1e. MDWG Meeting Agenda 2018050910.docx)

- Agenda Item 7c – Adjourn Meeting:

With no further discussion, Nate solicited a motion to adjourn the meeting.

Motion: Jason Shook motioned to adjourn the meeting. Jerad Ethridge seconded it. The motion passed unanimously.

The meeting was adjourned at 12:10pm.

Respectfully submitted,
Sunny Raheem
SPP Staff Secretary

TPL-007-1 Standard

MDWG Meeting

9-10 May 2018

Scott Jordan, on behalf of the TPLTF
sjordan@spp.org

Objectives

- TPL-007 Implementation Plan.
- TPLTF Guidance Document Review.
- GIC Data Gathering and Model Build
- TPLTF Intentions

TPL-007-1 Summary

TPL-007-1 Requirement	Summary of Requirement	Enforcement Date
R1	Identify individual and joint responsibilities.	01 July 2017
R2	Maintain System models and GIC System models.	01 July 2018
R3	Have acceptable steady state voltage criteria during benchmark GMD event.	01 Jan 2022
R4	Complete a GMD Vulnerability Assessment of Near-Term Trans Planning Horizon.	01 Jan 2022
R5	Provide GIC flow information to be used for the transformer thermal impact assessment.	01 Jan 2019
R6	TO/GO conduct thermal impact assessment.	01 Jan 2021
R7	Develop a Corrective Action Plan(s).	01 Jan 2022

FERC approved TPL-007-1 “Transmission System Planned Performance for Geomagnetic Disturbance Events” in September 2016.

TPLTF Guidance

Document Structure

Two sections:

Individual and Joint Responsibilities

- Suitable for R1 compliance.
- Fixed, upon approval.
- Reviewed by TPLTF, MDWG, RCWG and TWG.
- Approved by TWG.

Standard Application Guidance

- Not intended for compliance.
- “Living“ document.
- Will evolve as applicable entities gain experience and improve with industry best-practices.
- Review & approved by TPLTF.

TPLTF Guidance

Document Key Concepts

TPL-007-1 Requirement	Take-away
R1	PC, TP, TO, and GO adopt the individual and joint responsibilities delineated in Section 1.
R2	SPP-PC maintains the GMD model set. TO/GOs provide data; SPP-PC and TPs review.
R3	Consistent criteria across SPP. SPP-PC and TPs collaborate on developing criteria.
R4	SPP-PC executes studies and provides results to TPs. SPP-PC and TPs collaborate on GMD Vulnerability Assessment; distribute it to required entities.
R5	SPP-PC provides GIC flow information from benchmark GMD study using GMD model set.
R6	TO/GOs conduct thermal impact assessment using GIC flow data provided by SPP-PC; make report of results to SPP-PC and TPs.
R7	SPP-PC and TPs collaborate to develop Corrective Action Plans; provide CAPs in response to written requests.

GIC Data Gathering and Model Build

- GIC Data Collection Template Data and Template Users Guide sent in June 2017
- GIC Data and was received and compiled by SPP Staff and TPLTF Chair starting in March of 2018
- GIC Model Build and Supplementary data collection is on-going.
- Targeting Early June of 2018 for GIC Model completion

TPLTF Intentions (short-term)

- **Early - June of 2018:**

- Complete GIC Model.
- Looking for MDWG Approval

- **July through October of 2018:**

- *Calculate GIC Flows and coordinate with SPP Members and adjacent PCs and TPs.*
- Supplementary Data collection

- **November through December of 2018:**

- Finalize the GIC Flow assessment and coordination with SPP Members and adjacent PCs and TPs.
- Looking for TWG approval in December.

SPP TPLTF thanks you.

Please direct your questions to:

- Scott Jordan (SPP)
 - sjordan@spp.org

Task Name	Duration	Start	Finish
2019 MDWG Model Series (Powerflow & Short Circuit) - PSS/E 33.11 - MOD 8.1.0.1	169 days	Mon 7/9/18	Thu 2/28/19
2019 MDWG Powerflow/Short Circuit Models	169 days	Mon 7/9/18	Thu 2/28/19
Pass 0: SPP Internal Powerflow & Short Circuit Data/Topology Update	40 days	Mon 7/9/18	Fri 8/31/18
Pass 0 - SPP Staff send out kick-off email	0 days	Mon 7/9/18	Mon 7/9/18
Pass 0 - Lock Down MOD	5 days	Mon 7/9/18	Fri 7/13/18
Pass 0 - SPP Staff Reviews/Builds Trial 1 Unsolved models	5 days	Mon 7/9/18	Fri 7/13/18
Pass 0 - SPP Staff Posts Trial 1 models for Member Review	0 days	Fri 7/13/18	Fri 7/13/18
Pass 0 - SPP Staff Posts Trial 1 DocuCode	0 days	Fri 7/13/18	Fri 7/13/18
Pass 0 - Trial 1: Stakeholders review models and provide data submission through MOD	5 days	Mon 7/16/18	Fri 7/20/18
Pass 0 - Trial 1: Stakeholder Data/Topology Updates Due	0 days	Fri 7/20/18	Fri 7/20/18
Pass 0 - Lock Down MOD	10 days	Mon 7/23/18	Fri 8/3/18
Pass 0 - SPP Staff Reviews/Builds Trial 2 Solved models	10 days	Mon 7/23/18	Fri 8/3/18
Pass 0 - SPP Staff Posts Trial 2 models for Member Review	0 days	Fri 8/3/18	Fri 8/3/18
Pass 0 - SPP Staff Posts Trial 2 DocuCode	0 days	Fri 8/3/18	Fri 8/3/18
Pass 0 - Complete	0 days	Fri 8/3/18	Fri 8/3/18
Pass 1 - Load and Generation Profiles/Transactions	30 days	Mon 8/6/18	Fri 9/14/18
Pass 1 - Stakeholders coordinate load, generation and transactions	15 days	Mon 8/6/18	Fri 8/24/18
Pass 1 - Stakeholder Submissions Due	0 days	Fri 8/24/18	Fri 8/24/18
Pass 1 - SPP Staff compile EDST MDWG basecase transactions	5 days	Mon 8/27/18	Fri 8/31/18
Pass 1 - SPP Staff post EDST MDWG basecase transactions	0 days	Fri 8/31/18	Fri 8/31/18
Pass 1 - Lock Down MOD	10 days	Mon 9/3/18	Fri 9/14/18
Pass 1 - SPP Staff Reviews/Builds Pass 1 Solved models	10 days	Mon 9/3/18	Fri 9/14/18
Pass 1 - SPP Staff compile and conduct interchange conference calls	10 days	Mon 9/3/18	Fri 9/14/18
Pass 1 - SPP Staff posts transactions and DocuCode	0 days	Fri 9/14/18	Fri 9/14/18
Pass 1 - Complete	0 days	Fri 9/14/18	Fri 9/14/18
Pass 2: Incorporate Load and Generation Profiles/Transactions	30 days	Mon 9/17/18	Fri 10/26/18
Pass 2 - Stakeholders incorporate Profiles into MOD	5 days	Mon 9/17/18	Fri 9/21/18
Pass 2 - Stakeholder Profiles into MOD Due	0 days	Fri 9/21/18	Fri 9/21/18
Pass 2 - Lock Down MOD	10 days	Mon 9/24/18	Fri 10/5/18
Pass 2 - SPP Staff Reviews/Builds Pass 2 Solved models	10 days	Mon 9/24/18	Fri 10/5/18
Pass 2 - SPP Staff compile EDST MDWG basecase data	10 days	Mon 9/24/18	Fri 10/5/18
Pass 2 - SPP Staff post Pass 2 Models for Stakeholder Review	0 days	Fri 10/5/18	Fri 10/5/18
Pass 2 - SPP Staff post EDST MDWG basecase data and DocuCode	0 days	Fri 10/5/18	Fri 10/5/18
Pass 2 - Stakeholders review Pass 2 models/data submission through MOD	15 days	Mon 10/8/18	Fri 10/26/18
Pass 2 - Stakeholders update load and generation reports/reconcile transaction discrepancies	15 days	Mon 10/8/18	Fri 10/26/18
Pass 2 - Stakeholder EDST Submission Due	0 days	Fri 10/26/18	Fri 10/26/18
Pass 2 - Stakeholder Data/Topology Updates Due	0 days	Fri 10/26/18	Fri 10/26/18
Pass 2 - Complete	0 days	Fri 10/26/18	Fri 10/26/18
Pass 3 (Generation, Loads, & Interchange Updates)	30 days	Mon 10/29/18	Fri 12/7/18
Pass 3 - Lock Down MOD	15 days	Mon 10/29/18	Fri 11/16/18
Pass 3 - SPP Staff Reviews/Builds Pass 3 Solved models (Merge with MMWG Current or Prior year)	15 days	Mon 10/29/18	Fri 11/16/18
Pass 3 - SPP Staff compile EDST MDWG basecase data	15 days	Mon 10/29/18	Fri 11/16/18
Pass 3 - SPP Staff post Pass 3 Models for Stakeholder Review	0 days	Fri 11/16/18	Fri 11/16/18
Pass 3 - SPP Staff post EDST MDWG basecase data and DocuCode	0 days	Fri 11/16/18	Fri 11/16/18
Pass 3 - Stakeholders provide Transmission Service Inputs (AG1) Data	15 days	Mon 11/19/18	Fri 12/7/18
Pass 3 - Stakeholders review Pass 3 models/data submission through MOD	15 days	Mon 11/19/18	Fri 12/7/18
Pass 3 - Stakeholders update load and generation reports/reconcile transaction discrepancies	15 days	Mon 11/19/18	Fri 12/7/18
Pass 3 - Final Stakeholder EDST Submission Due	0 days	Fri 12/7/18	Fri 12/7/18
Pass 3 - Stakeholder Data/Topology Updates Due	0 days	Fri 12/7/18	Fri 12/7/18
Pass 3 - Complete	0 days	Fri 12/7/18	Fri 12/7/18
Pass 4 Final Submission	25 days	Mon 12/10/18	Fri 1/11/19
Pass 4 - Lock Down MOD	10 days	Mon 12/10/18	Fri 12/21/18
Pass 4 - SPP Staff Reviews/Builds Pass 4 Solved models	10 days	Mon 12/10/18	Fri 12/21/18
Pass 4 - SPP Staff compile EDST MDWG basecase data	10 days	Mon 12/10/18	Fri 12/21/18
Pass 4 - SPP Staff post Pass 4 Models for Stakeholder Review	0 days	Fri 12/21/18	Fri 12/21/18
Pass 4 - SPP Staff post EDST MDWG basecase data and DocuCode	0 days	Fri 12/21/18	Fri 12/21/18
Pass 4 - SPP Staff/Member Face to Face	2 days	Tue 1/8/19	Wed 1/9/19
Pass 4 - Stakeholders review Pass 4 models/data submission through MOD	15 days	Mon 12/24/18	Fri 1/11/19
Pass 4 - Stakeholder Data/Topology Updates Due	0 days	Fri 1/11/19	Fri 1/11/19
Final Data Submission Deadline	0 days	Fri 1/11/19	Fri 1/11/19
Pass 4 - Complete	0 days	Fri 1/11/19	Fri 1/11/19
2019 MDWG Power Flow Finalization	24 days	Mon 1/14/19	Fri 2/15/19
Final - Lock Down MOD	15 days	Mon 1/14/19	Fri 2/1/19
Final - SPP Staff Reviews/Builds Final Powerflow Models	15 days	Mon 1/14/19	Fri 2/1/19
Final - SPP Staff Post Final Powerflow Models for Approval	0 days	Fri 2/1/19	Fri 2/1/19
Stakeholders Review for Finalization of the 2019 Series MDWG Powerflow Models	5 days	Mon 2/4/19	Fri 2/8/19
Finalization - Conference Call Vote	0 days	Fri 2/15/19	Fri 2/15/19
2019 MDWG Short Circuit Models	70 days	Fri 11/16/18	Thu 2/21/19
Merge with SERC Short Circuit Models	15 days	Fri 11/16/18	Thu 12/6/18
Pass 1 - SPP Staff Posts Pass 1 for Stakeholder review	0 days	Fri 12/14/18	Fri 12/14/18
Pass 2 - SPP Staff Posts Pass 2 for Stakeholder review	0 days	Thu 1/17/19	Thu 1/17/19
Pass 3 - SPP Staff Posts Pass 3 for Stakeholder review	0 days	Thu 2/21/19	Thu 2/21/19
2019 MDWG Short Circuit Model Finalization	5 days	Fri 2/22/19	Thu 2/28/19
Stakeholders Review for Finalization of the 2019 Series MDWG Short Circuit Models	5 days	Fri 2/22/19	Thu 2/28/19
Finalization - Conference Call Vote	0 days	Thu 2/28/19	Thu 2/28/19

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