Southwest Power Pool, Inc.
Model Development Working Group
Net Conference
November 1, 2017:
2:00 P.M. – 4:00 P.M.

• M I N U T E S •

Agenda Item 1 – Administrative

The MDWG Chair, Nate Morris, called the meeting to order at approximately 2:05 p.m. The following MDWG members were in attendance:

MDWG Members present:

<table>
<thead>
<tr>
<th>MDWG Member</th>
<th>Present</th>
<th>Proxy</th>
<th>Present</th>
<th>Company</th>
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<tbody>
<tr>
<td>Nate Morris</td>
<td>YES</td>
<td></td>
<td></td>
<td>Empire District Electric Company</td>
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<tr>
<td>Derek Brown</td>
<td>YES</td>
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<td>Westar Energy</td>
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<td>Dustin Betz</td>
<td>YES</td>
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<td>Nebraska Public Power District</td>
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<td>John Boshears</td>
<td>YES</td>
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<td>City Utilities of Springfield</td>
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<td>Jerad Ethridge</td>
<td>YES</td>
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<td>Oklahoma Gas &amp; Electric</td>
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<td>Joe Fultz</td>
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<td>Grand River Dam Authority</td>
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<td>Wayne Haidle</td>
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<td>Holli Krizek</td>
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<td>Western Area Power Administration</td>
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<td>Reené Miranda</td>
<td>YES</td>
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<td>Southwestern Public Service</td>
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<td>Scott Schichtl</td>
<td>YES</td>
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<td>Arkansas Electric Cooperative Company</td>
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<td>Jason Shook</td>
<td>YES</td>
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<td>GDS Associates</td>
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<td>Liam Stringham</td>
<td>YES</td>
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<td>Sunflower Electric Power Corporation</td>
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<tr>
<td>Anthony Cook</td>
<td>YES</td>
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<td>Southwest Power Pool, Inc.</td>
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</tbody>
</table>

The following guests were also in attendance:

Bruce Doll – Municipal Energy Agency of Nebraska
Alan Burbach – Lincoln Electric System
Gimod Olapurayil, Charles Shue – ITC Great Plains
John Turner – Board of Public Utilities
Tien Le – Kansas City Power & Light
John Mayhan – Omaha Public Power District
Scott Mijin – Southwestern Power Administration
Chris Colson – Western Area Power Administration
Ellis Lutz – Associated Electric Cooperative
Mark Reintar – Golden Spread Electric Coop
John Weber – Missouri River Energy Services
Jeff Crites – Empire District Electric Company
Andrew Berg – Golden Spread Electric Coop
Meeting Agenda

Following the roll call, Nate asked the group if they had any issues with or modifications to the agenda as presented. No other issues or modifications were raised.

Motion: Jason Shook made the motion to approve the agenda as presented. Derek Brown seconded it. The motion passed unanimously.
(Attachment 1 - MDWG Meeting Agenda 20171101.docx)

Previous Meeting Minutes

Nate asked the group if there were any proposed edits to the October 4, 2017 meeting minutes. No one stated any issues with the minutes.

Motion: Derek Brown motioned to approve the October 4, 2017 meeting minutes as presented. Jerad Ethridge seconded the motion. The motion passed unanimously.
(Attachment 2 - MDWG Minutes 10-04-2017.docx)

Agenda Item 2 – MDWG Manual Updates:

Anthony presented the proposed manual changes. The group discussed the proposed updates and a few aspects of the conversation are noted.

- Some wanted to get rid of the tables in the outage section; some wanted to keep the tables.
- It was requested to change “control area” to “model area” and define “model area”.

Many of the members were not prepared to discuss the agenda item and were reading the proposed changes for the first time during the meeting.

Nate solicited for a motion.

Motion: Derek motioned to approve the presented language with updates. Dustin Betz seconded the motion.

The group continued to discuss the language.

Motion: Derek withdrew his motion to approve the presented language with updates. Dustin Betz withdrew his second to the motion.
The group decided to table the approval of any language and allow the Manual TF to re-discuss the proposed updates.

**AI:** Manual TF to re-discuss proposed language.

**Agenda Item 3 – 2018 Series Dynamic Build:**

Due to the lack of time, this item was tabled for a later meeting. Anthony did ask the group if anyone uses the Full Dynamic case set or just the Reduced set. A few of the members stated that they use the Full Dynamic case set.

**Agenda Item 4 – New Membership:**

Nate stated that the nominees for the open positions have been reviewed and will be soon approved. The group asked if the nominees can be reviewed by the stakeholders and have input prior to being decided on.

**AI:** Anthony to ask Carl Monroe if Stakeholders can review nominees for open positions and have input.

**Agenda Item 4 – Administrative Items:**

Summary of Action Items

- Manual TF to re-discuss proposed language.
- Anthony to ask Carl Monroe if Stakeholders can review nominees for open positions and have input.

**Future Meetings**

- First week of December: TBD

**AI:** Anthony to send out Doodle Poll for MDWG Member availability.

**Adjourn Meeting**

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

**Motion:** Jerad motioned to adjourn the meeting. Holli seconded it. The motion passed unanimously.

Respectfully submitted,
Anthony Cook
SPP Staff Secretary
Southwest Power Pool, Inc.
MODEL DEVELOPMENT WORKING GROUP
November 1, 2017

• A G E N D A •

2:00 p.m. – 4:00 p.m.

1. Administrative Items .............................................................................................................. Nate Morris
   a. Call to Order
   b. Introductions
   c. Proxies
   d. Agenda Review (Action Item)
      i. Meeting Materials
   e. Previous Meeting Minutes (Action Item)
      i. October 4, 2017

2. MDWG Manual Updates (Action Item) .............................................................................. Anthony Cook/Moses Rotich
   a. Page 6, 7, 9, 10, 14, 45 of 85
   b. Appendix VIII (pages 80 – 85)

3. 2018 Series Dynamic Build (Action Item) ......................................................................... Moe Shahriar/Michael Odom
   a. Schedule
   b. Recommended Improvements

4. New Membership .................................................................................................................. Nate Morris

5. Administrative Items .......................................................................................................... Nate Morris
   a. Summary of Action Items
   b. Future Meeting
      i. November 1, 2017
   c. Adjourn
Southwest Power Pool, Inc.
Model Development Working Group
Net Conference
October 4, 2017:
2:00 P.M. – 4:00 P.M.

• M I N U T E S •

Agenda Item 1 – Administrative

The MDWG Vice-Chair, Derek Brown, called the meeting to order at approximately 2:10 p.m. The following MDWG members were in attendance:

**MDWG Members present:**

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<td>YES</td>
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</tr>
</tbody>
</table>

The following guests were also in attendance:

Alex Mucha – Oklahoma Municipal Power Authority
Kevin Foflygen – City Utilities of Springfield
Bruce Doll – Municipal Energy Agency of Nebraska
Alan Burbach – Lincoln Electric System
Gimod Olapurayil – ITC Great Plains
John Turner – Board of Public Utilities
Ryan Baysinger – Kansas City Power & Light
John Mayhan – Omaha Public Power District
Scott Mijn – Southwestern Power Administration
Daryl Husling, James Thomas Jr. – Oklahoma Gas & Electric
Chris Colson – Western Area Power Administration
Ellis Lutz – Associated Electric Cooperative
Mark Reinart – Golden Spread Electric Coop
Meeting Agenda

Following the roll call, Derek asked the group if they had any issues with or modifications to the agenda as presented. No other issues or modifications were raised.

Motion: Jerad Ethridge made the motion to approve the agenda as presented. Dustin Betz seconded it. The motion passed unanimously.

(Attachment 1 - MDWG Meeting Agenda 20171004.docx)

Previous Meeting Minutes

Derek stated that the issue with the July 5, 2017 minutes had been resolved and is being brought before the group for approval. A member requested a recap of the issue. Anthony stated that the issue was with Agenda Item 2. WAPA feels that the minutes don't reflect the conversation that was held nor does it record WAPA’s dissention of getting rid of the company workbooks. Anthony stated that he didn’t record the conversation for the minutes; albeit, there were individuals that were for, against, and neutral to the company workbooks during the discussion. However, once it was stated that SPP would continue to require the Data Submittal Workbook transaction sheet be filled out, and WAPA would not provide the company workbook code to SPP nor support the code updates if the transaction sheet was to be required, it was deemed that the company workbooks could no longer be used. No one responded to Nate when he inquired if anyone had issues with discontinuing the use of the company workbooks for the 2018 Series MDWG model build. Since the company workbooks were informally adopted to try the process, it wasn’t necessary to formally vote to discontinue the process. Given that no one expressed dissention upon Nate’s request, Anthony stated that procedurally, the minutes cannot be altered by later adding someone’s dissention if it didn’t take place in the actual meeting. SPP and WAPA have agreed that the minutes for this meeting (October 4, 2017) will reflect this discussion as well as contain reasons for any “Nay” votes. Derek solicited for a motion.

Motion: Joe Fultz motioned to approve the July 5, 2017 meeting minutes as presented. Jerad Ethridge seconded the motion.

A roll call vote was performed yielding the following results: Motion Passed

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<td>Derek Brown</td>
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<td>Yea</td>
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<tr>
<td>Dustin Betz</td>
<td>Nebraska Public Power District</td>
<td>Abstain</td>
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Derek asked the members that voted against or abstained to provide a written reason for their vote if they desired. *(Attachment 2 - MDWG Minutes July 5, 2017.docx)*

- Reené and Dustin stated they abstained since they were not present at the July 5, 2017 meeting.
- WAPA provided the following:
  - The 05 July minutes refer to an ambiguous “the group decided” regarding company workbooks. For major process or policy decisions affecting model data reporting requirements, an agenda item should have been added for the purpose of notifying the membership. The lack of agenda item should be noted in the 05 July minutes.
  - The 05 July minutes do not accurately reflect that “the group decided” actually refers to an informal poll. As experience has shown, the transactions process is not only a major policy decision for SPP staff and the MDWG at-large, but also affects other downstream analytical and study products. At the very least, the discussions regarding transactions at the 05 July meeting should have led to a follow-up formal vote, with adequate time for both sides of the debate to present their case. The language “the group decided” in the 05 July minutes should be replaced with “the group discussed and an informal poll was conducted”.
  - The 05 July minutes do not accurately reflect that dissenting opinions (in favor of continuing the company workbooks) were voiced during the meeting, nor do the minutes offer any context regarding the company workbooks topic. The 05 July minutes should be amended to reflect that “cursory treatment of the company workbooks topic was conducted and the some participants disagreed with the discontinuation”.
  - The 05 July meeting minutes were posted on 14 August for public review. The 05 July minutes do not reflect that a formal response to the minutes, including WAPA-UGPR rationale for dissent, was transmitted on 16 August, well within a reasonable period following the posting to provide feedback. Under normal circumstances, if a formal vote had been conducted, any dissenting voters would have been offered the opportunity to enter their formal response to the vote into the minutes. However, given a formal vote was not conducted during the 05 July meeting, the minutes should reflect that “upon publishing the meeting minutes for MDWG review, a member provided formal comments that are not entered herein.”

WAPA also provided the following attachment:
Derek asked the group if anyone had any issues approving the minutes from the September 6, 2017 and September 18, 2017 together. No one voiced a concern. Derek solicited a motion.

Motion: Jerad motioned to approve the September 6, 2017 and September 18, 2017 meeting minutes as presented. Dustin Betz seconded the motion. The motion passed unanimously. (Attachment 4 - MDWG Minutes_9-6-2017.docx, Attachment 5 - MDWG Minutes_9-18-2017.docx)

Agenda Item 2 – Finalize 2017 Series MDWG Dynamic Models:

Derek stated that at the last meeting, a vote was taken to approve the dynamic models with the caveat that the Waverly WF power plant controller get included. However, based upon further investigation into adding the Waverly WF PPC to the dynamic models, it was confirmed that the PPC is not necessary and does not yield different results if included. Procedurally, a new motion will need to be made to amend the previous motion on finalizing the dynamic models.

Motion: John Boshears motioned to amend the motion relating to the finalization of the 2017 Series MDWG Dynamic models by removing the caveat that the Waverly WF power plant controller get included. Reené Miranda seconded the motion. The motion passed unanimously.

Agenda Item 3 – MDWG Manual Updates:

Anthony presented the proposed manual changes on auxiliary load modeling. The group discussed the language and a few aspects of the conversation are noted.

- A question was asked if SPP would be changing the Aux load values based on generator dispatch of the ITP models. Anthony stated that SPP will not be changing load values and that it is the responsibility of the data owner to make the change through the model review process.
- A question was asked if entities would be required to explicitly model the station service transformer or can they continue to lump it all on the high side. The group agreed to allow both practices and decided to alter the language and add a third figure to section 2b.

Derek solicited for a motion.

Motion: Reené motioned to approve the auxiliary load modeling process language as amended and to fix superscripts and add figure VII-3. Scott Schichtl seconded the motion. The motion passed unanimously.

AI: SPP Staff to fix the superscripts and add figure VII-3 to the auxiliary load modeling process language.

(Attachment 6 - SPP MDWG Model Development Procedure Manual (Public)_V14_Red-Line.docx)
Agenda Item 4 – Administrative Items:

Summary of Action Items

- SPP Staff to fix the superscripts and add figure VII-3 to the auxiliary load modeling process language.

Future Meetings

- November 1, 2017

Adjourn Meeting

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

**Motion:** Jerad Ethridge motioned to adjourn the meeting. Joe Fultz seconded it. The motion passed unanimously.

Respectfully submitted,
Anthony Cook
SPP Staff Secretary