Southwest Power Pool
MODEL DEVELOPMENT WORKING GROUP
January 18, 2011
Conference Call
2:00 P.M. – 4:00 P.M.

• M I N U T E S •

Agenda Item 1 - Administrative

The meeting was called to order at 2:05 p.m. The following Model Development Working Group (MDWG) members were in attendance:

- Scott Rainbolt, Chair – American Electric Power (AEP)
- Joe Fultz, Vice Chair – Grand River Dam Authority (GRDA)
- Reené Miranda – Southwestern Public Service (SPS)
- Mo Awad – Westar Energy (WR)
- Nate Morris – Empire District Electric (EDE)
- Mike Clifton – Oklahoma Gas & Electric (OGE)
- Nathan McNeil – Midwest Energy (MIDW)
- Jason Shook – GDS Associates (GDS)
- John Boshears – City Utilities of Springfield (CUS)
- Scott Schichtl – Arkansas Electric Cooperative (AECC)
- Dustin Betz – Nebraska Public Power District (NPPD)
- Brian Wilson – Kansas City Power & Light (KCPL)

SPP Staff in attendance included Anthony Cook (Secretary), Kelsey Allen, and Doug Bowman.

The following guests were also in attendance:
- Julie Denton – City of Independence, Missouri (INDN)
- Liam Stringham – Sunflower Electric Power Corporation (SEPC)
- Deepthi Kasinadhuni – Grand River Dam Authority (GRDA)
- Racheal Ren – Kansas City Power & Light (KCPL)
- John Shipman – Omaha Public Power District (OPPD)
- Ed Horgan – Southwestern Public Service (SPS)
- Syed Ahmad – Federal Energy Regulatory Commission (FERC)

Meeting Agenda

The agenda was reviewed by the group. Anthony Cook suggested a change to item 7. Joe Fultz motioned to approve the agenda with change; Mo Awad seconded the motion. The motion passed unopposed (Attachment 1 - MDWG Agenda 20110118.doc).
Meeting Minutes
Reené Miranda wanted to discuss the “Normally Open Lines” paragraph in section 3 of the December 6, 2010 minutes. He asked to add something to the data submittal workbook that would contain line maintenance information such as start and stop dates. Reené will send data for maintenance lines and SPP will determine the “NO” lines. Joe Fultz motioned to approve the December 6, 2010 meeting minutes as is; Brian Wilson seconded the motion. The motion passed unopposed (Attachment 2 - MDWG Minutes 20101206.doc).

Agenda Item 2 – Review of Past Action Items
The action items were quickly reviewed. Items #1, #60, and #62 are to be discussed as agenda topics during the meeting.

Agenda Item 3 – Summer Shoulder:
Definition and Season Guideline Discussion
Many of the members stated that they are comfortable with the 85% of summer peak load value for the summer shoulder case. Dustin Betz expressed that 70% is consistent for the NPPD area. SPP is proposing changing the definition to the range of 70% - 85% of summer peak load for the summer shoulder model. Some concerns arose whether the off peak models would end up having the same load values as a shoulder model. It was stated that load values, for all seasonal models, would be submitted by the SPP members as normal. It was requested to add a statement into the MDWG Powerflow Procedure Manual to state that load levels for all models are based on a company specific methodology. Reené Miranda motioned to change the load value of the summer shoulder model from 85% to a range of 70%-85% of summer peak load. Mike Clifton seconded the motion. The motion passed unopposed.

Agenda Item 4 – Planning Reserve Recommendation for TWG:
Reené Miranda discussed the reserve sharing in the footprint and the agreement which is based on percentage of tie line capacity by a company. Kelsey Allen stated that in horizon year models, some companies don’t have generation to hold a percentage of reserve. Julie Denton asked if this issue would be taken care of when planning for N-1. Kelsey answered that the concern is with system intact. John Boshears questioned if transfers not approved by SPP can go into the models. Kelsey answered that those unapproved transfers can go into the MDWG model set but generation without an IA and non-firm transactions are removed from the STEP/ITP models.

After lengthy discussion, Nathan McNeil stated that the TWG should make this decision and that it is the duty of the MDWG to implement the process. As decided in the previous meeting, the group provided the following options to take to the TWG.

1. Add non-firm transactions
2. Max out generation
3. Interrupt load
Scott Rainbolt will get with Anthony and Kelsey after the call to discuss presenting this to the TWG.

**Agenda Item 5 – Modeling Data Ownership:**

Recently, SPP has been working with the members to increase the granularity of the modeling data. Kelsey Allen suggested the members make sure ownership data for buses, loads, generators, and branches are in the models to help continue this effort. Each TO will need to review their area and SPP can make a mass update. Nathan McNeil stated there are generators within the MIDW footprint that MIDW doesn’t own and expressed concern about being assigned MIDW ownership to those units. It was decided to leave the ownership for non-SPP member units as default or to assign a generic number to those units. The members will review the data and provide exceptions if needed. Kelsey will assign ownership to data and provide to the members for review.

**Agenda Item 6 – Short Circuit Models/Data Update:**

Doug Bowman discussed the sequence data being due March 1, 2011. He provided data that is missing in MOD to the members to help speed the process. Nate Morris asked about lines owned by non-SPP members. Doug stated that staff will try and work with those entities if the members will provide contact information.

**Agenda Item 7 – Other:**

*Varflow for Line Reactor Additions*

Reené Miranda discussed not having reactors in the models and the voltage problems that will occur in the stability models. He requested that this be addressed before the Build 1 models are finalized. SPP will run an AC contingency scan on the Build 1 Pass 2 Final Models to identify voltage issues to see where compensation will be needed. Staff will discuss the issue and provide feedback to the members.

**Agenda Item 8 - Closing Administrative Duties:**

*Next Meetings:*

   Conference Call: March (TBD)
   Face to Face: August, Omaha

*Upcoming Meetings Topics:*

   1. Short Circuit Model Update
   2. Additional TBD

*Summary of New Action Items*

No additional action items resulted from this meeting.

(Attachment 3 - SPP MDWG Action Items 20110118.xls)
Adjourn Meeting
Scott Schichtl motioned to adjourn the meeting; everyone seconded the motion.
With no further business to discuss, the MDWG meeting was adjourned at 4:01 p.m.

Respectfully submitted,
Anthony Cook
SPP Staff Secretary
Southwest Power Pool
MODEL DEVELOPMENT WORKING GROUP
January 18, 2011
Conference Call
2:00 P.M. – 4:00 P.M.

• DRAFT AGENDA •

1. Administrative ..................................................................................................................Scott Rainbolt
   a. Call to order
   b. Proxies
   c. Approve agenda
   d. Approve minutes of previous meetings
      i. December 6, 2010

2. Review of Past Action Items.......................................................................................... Anthony Cook

3. Summer Shoulder Model................................................................................................All
   a. Definition
   b. Season Guideline Discussion

4. Planning Reserve Recommendations for TWG .............................................................. All

5. Modeling Data Ownership .............................................................................................. Kelsey Allen

6. Short Circuit Models/Data Update ................................................................................Doug Bowman

7. Other .............................................................................................................................. All
   a. Varflow for Line Reactor Additions

8. Closing Administrative Duties.......................................................................................Scott Rainbolt
   a. Next meeting place and date
   b. Next meeting topics
   c. Review of Action Items
   d. Adjourn meeting
**Southwest Power Pool**  
**MODEL DEVELOPMENT WORKING GROUP**  
**SPP Chenal Office – Little Rock, AR**  
**December 6, 2010**  
**1:00 p.m.**

- **MINUTES** -

**Agenda Item 1 - Administrative**

The meeting was called to order at 1:02 p.m. The following Model Development Working Group (MDWG) members were in attendance:

- Scott Rainbolt, Chair – American Electric Power (AEP)
- Joe Fultz, Vice Chair – Grand River Dam Authority (GRDA)
- Reené Miranda – Southwestern Public Service (SPS)
- Mo Awad – Westar Energy (WR)
- Nate Morris – Empire District Electric (EDE)
- Mike Clifton – Oklahoma Gas & Electric (OGE)
- Nathan McNeil – Midwest Energy (MIDW)
- Jason Shook – GDS Associates (GDS)
- John Boshears – City Utilities of Springfield (CUS)
- Scott Schichtl – Arkansas Electric Cooperative (AECC)
- Dustin Betz – Nebraska Public Power District (NPPD)
- Brian Wilson – Kansas City Power & Light (KCPL)

SPP Staff in attendance included Anthony Cook (Secretary), Kelsey Allen, and John Snyder.

The following guests were also in attendance:

- Liam Stringham – Sunflower Electric Power Corporation (SEPC)
- Charles Yokley – Sunflower Electric Power Corporation (SEPC)
- Chris Thibodeaux – Cleco Power (CELE)
- John Payne – Kansas Electric Power Cooperative (KEPCo)
- Jason Bentz – American Electric Power (AEP)
- John Lane – Western Farmers Electric Cooperative (WFEC)
- David Sargent – Southwestern Power Administration (SWPA)
- Jared Tumilson – Oklahoma Gas & Electric (OGE)
- Bryan Wilson – Oklahoma Gas & Electric (OGE)

*Meeting Agenda*

The agenda was reviewed by the group. Anthony Cook suggested changes to items 7 and 8. Mo Awad motioned to approve the agenda with changes; Mike Clifton seconded the motion. The motion passed unopposed ([Attachment 1 - MDWG Agenda 20101206.doc](#)).
Meeting Minutes
Scott Schichtl motioned to approve the October 21, 2010 meeting minutes; Mo Awad seconded the motion. The motion passed unopposed (Attachment 2 - MDWG Minutes 20101021.doc).

Agenda Item 2 – Review of Past Action Items

Anthony Cook opened discussion by asking Kelsey Allen to give an update on action item #52. Kelsey explained that MOD will allow a load to be added to an external bus that is not in the database; however, the issue is to not overwrite more up to date external data, contained in the MMWG models, with the external data in MOD. MOD has the functionality to build full models within the program by defining external areas, but any data contained in MOD for updates to external systems will not get applied. The group agreed to let SPP decide the best method of building cases.

Anthony also informed the group that item #53 was complete and #59 would be complete with the posting of the Build 1 Pass 2 Initial models.

Items #1 and #60 - #62 are to be discussed as agenda topics during the meeting.

Agenda Item 3 – Modeling Practices:

Operating/Planning Reserve
Anthony Cook informed the group that the GWG Secretary stated that accounting for generation reserve is a modeling issue and referred the inquiry back to the MDWG. Kelsey Allen stated that the near term models are not an issue and that the problem arises in the long term cases, more specifically in the ten year case. The question was asked again as to whether it is better to max out units or increase imports. The MDWG decided that the group needs to provide the TWG, at its February meeting, with options as to how to handle this situation. The group decided to continue this discussion at the next conference call.

Normally Open Lines
Anthony Cook informed the group that the idea of modeling “normally open” lines with an ID of “NO” was openly accepted by the MMWG. Discussion arose as to the amount of effort it would take to change the data when PSS/E version 32 may have additional features to model the lines differently. Kelsey Allen again suggested adding a list to the data submittal workbook. The group decided adding an additional tab to the Data Submittal Workbook would be the best choice.

Agenda Item 4 – Summer Shoulder:

Load Duration Curve
Daily peak values and load curve information for 2008-2010 was sent to the modeling contacts for review. The group decided to postpone this topic for further discussion until the next MDWG meeting.

Agenda Item 5 – Data Submittals:
MOD vs. Data Submittal WB
In an effort to eliminate redundant data submission by SPP members, SPP will use the information within MOD projects and the models to update the relevant data in the Data Submittal Workbook.

Agenda Item 6 – Breaker/Switch Modeling for PSS/E 32:
The group discussed the pros and cons of modeling breaker and switch configurations in PSS/E version 32. The group decided that the amount of time and potential issues that could arise from attempting this task would far outweigh any benefits.

Agenda Item 7 – Wind Farm Modeling:
Mo Awad inquired, from other members, their current practices of modeling wind. TVA requested Westar to model a transaction of 185 MW of wind in all models. After discussion the group directed Mo to Criteria 12.1.5.3.g.

Agenda Item 8 – Other:
Facility Ratings
Mo Awad asked how transmission lines should be rated, specifically as to the value of Rate B. The MDWG Powerflow Manual defines Rate A as the normal rating and Rate B as the emergency rating and that Rate B should be the same or higher than Rate A with Rate C as optional. Should Rate B be defined more specifically as long-term or 4 hour emergency rating? It is currently up to the transmission owner as to which value to use.

Organizational Survey
Anthony Cook briefly discussed the results of the Organizational Effectiveness Survey. The group has an overall effectiveness rating of 3.9, up from 2.8 and an aggregate mean score of 4.09, up from 3.98 in 2009.

Agenda Item 9 - Closing Administrative Duties:

Next Meetings:
Conference Call: January (TBD)
Face to Face: August, Omaha

Upcoming Meetings Topics:
1. Planning reserve recommendations/questions for TWG
2. Summer Shoulder load value
3. Short Circuit data/model update

Summary of New Action Items
No additional action items resulted from this meeting.

(Attachment 3 - SPP MDWG Action Items 20101206.xls)

Adjourn Meeting
Scott Schichtl motioned to adjourn the meeting; Reené Miranda seconded the motion. With no further business to discuss, the MDWG meeting was adjourned at 3:29 p.m.

Respectfully submitted,
Anthony Cook
SPP Staff Secretary
<table>
<thead>
<tr>
<th>Action Item</th>
<th>Responsible Parties</th>
<th>Date Originated</th>
<th>Progress</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ask SPP Operations to derive the average coincident peak value for SPP System during the 4 month summer</td>
<td>Anthony Cook</td>
<td>5/19/2009</td>
<td>Incomplete</td>
</tr>
<tr>
<td>2</td>
<td>SPP Staff will add the NERC TPL (Transmission Planning) and MOD (Modeling, Data, and Analysis) Standards that are applicable to each required item in the SPP Compliance Template Form</td>
<td>Anthony Cook</td>
<td>8/7/2009</td>
<td>In Progress</td>
</tr>
<tr>
<td>3</td>
<td>Members are to ensure that all generation conform to the Remote Generation Modeling Procedure beginning with the second build of the 2010 Model Series</td>
<td>Modeling Contacts</td>
<td>8/7/2009</td>
<td>Complete</td>
</tr>
<tr>
<td>6</td>
<td>Staff will add a member editing process for the Master Tie Line Procedure to the MDWG Powerflow Manual</td>
<td>Anthony Cook</td>
<td>9/16/2009</td>
<td>In Progress</td>
</tr>
<tr>
<td>11</td>
<td>Staff will add a member editing process for the SPP Data Submittal Form to the MDWG Powerflow Manual</td>
<td>Anthony Cook</td>
<td>9/16/2009</td>
<td>In Progress</td>
</tr>
<tr>
<td>14</td>
<td>Staff will update the Web Based Power Flow Model Development Procedure Manual after MOD version 7 has been released and installed on the production server</td>
<td>SPP Staff</td>
<td>11/17/2009</td>
<td>In Progress</td>
</tr>
<tr>
<td>42</td>
<td>Review the new MOD standards approved by FERC and how they will apply to the MDWG and SPP planning modeling</td>
<td>SPP Staff</td>
<td>3/1/2010</td>
<td>In Progress</td>
</tr>
<tr>
<td>46</td>
<td>Staff to add a list of what the final Build 1 models are used for to the data request email</td>
<td>SPP Staff</td>
<td>8/5/2010</td>
<td>In Progress</td>
</tr>
<tr>
<td>50</td>
<td>Reformat the MDWG procedure manual and add hyperlinks for referenced documents</td>
<td>Anthony Cook</td>
<td>8/6/2010</td>
<td>In Progress</td>
</tr>
<tr>
<td>52</td>
<td>Determine if MOD will allow a load to be added to an external bus that is not in the database and what validation errors might arise</td>
<td>Kelsey Allen</td>
<td>8/6/2010</td>
<td>Complete</td>
</tr>
<tr>
<td>56</td>
<td>Discuss with Entergy about SPP members modeling load with zero impedance lines</td>
<td>SPP Staff</td>
<td>8/6/2010</td>
<td>In Progress</td>
</tr>
<tr>
<td>57</td>
<td>Determine the standards for stability load data</td>
<td>Scott Jordan</td>
<td>8/6/2010</td>
<td>In Progress</td>
</tr>
<tr>
<td>59</td>
<td>Provide updated docucheck program to modeling contacts</td>
<td>SPP Staff</td>
<td>8/6/2010</td>
<td>Complete</td>
</tr>
<tr>
<td>60</td>
<td>Perform a study of current summer load duration curve</td>
<td>SPP Staff</td>
<td>10/21/2010</td>
<td>In Progress</td>
</tr>
<tr>
<td>61</td>
<td>Discuss reserve modeling with the GWG. Provide TWG with options as to how to handle this situation.</td>
<td>SPP Staff</td>
<td>10/21/2010</td>
<td>In Progress</td>
</tr>
<tr>
<td>62</td>
<td>Discuss status mode for branches and generators with PTI and MMWG</td>
<td>SPP Staff</td>
<td>10/21/2010</td>
<td>Complete</td>
</tr>
<tr>
<td>63</td>
<td>Add line maintenance worksheet to data submittal workbook</td>
<td>SPP Staff</td>
<td>1/18/2011</td>
<td>In Progress</td>
</tr>
<tr>
<td>64</td>
<td>Assign ownership to data and provide to members for review</td>
<td>Kelsey Allen</td>
<td>1/18/2011</td>
<td>In Progress</td>
</tr>
</tbody>
</table>