



**Southwest Power Pool, Inc.  
Model Development Working Group  
September 15, 2015  
SPP Corporate Office  
Little Rock, Arkansas  
8:00A.M. – 12:00 P.M.**

**• M I N U T E S •**

**Agenda Item 1 - Administrative**

The meeting was called to order at 8:52 a.m. The following Model Development Working Group (MDWG) members were in attendance:

Nate Morris, Chair – Empire District Electric Company  
Dustin Betz – Nebraska Public Power District  
John Boshears - City Utilities of Springfield  
Derek Brown – Westar Energy  
Joe Fultz – Grand River Dam Authority  
Holli Krizek – Western Area Power Administration  
Reené Miranda – Southwestern Public Service  
Scott Schichtl – Arkansas Electric Cooperative Company  
Jason Shook – GDS Associates  
Liam Stringham – Sunflower Electric Power Corporation  
Brian Wilson – Kansas City Power & Light

SPP Staff in attendance included Anthony Cook (Secretary), Zack Bearden, Brandon Hentschel, Scott Jordan, Mike Hughes, Derek Wingfield, and John Mills.

The following guests were also in attendance:

Jeff Crites – Empire District Electric Company  
Aravind Chellappa – Southwestern Public Service  
Jerry Bradshaw, Kevin Foflygen - City Utilities of Springfield  
Gimod Olapurayil – ITC Great Plains  
Mark Reinart – Golden Spread Electric Cooperative  
Jerad Ethridge, Sing Tay, Alex Lanphere – Oklahoma Gas & Electric  
Bruce Doll – Municipal Energy Agency of Nebraska  
David Spargo, Thomas Mayhan – Omaha Public Power District  
Dave Sargent, Mark Robinson – Southwestern Power Administration  
John Payne – Kansas Electric Power Cooperative, Inc.  
John Turner – Kansas City Board of Public Utilities  
Alex Mucha – Oklahoma Municipal Power Authority  
Jeremy Harris, James Remley – Westar Energy  
Wayne Haidle – Basin Electric Power Cooperative  
Tyler Baxter – CornBelt Power Cooperative  
John Knofczynski – East River Electric Power Cooperative  
Adam Mummert

There were no proxies for this meeting.

#### *Group Membership Update*

Anthony Cook stated that the TWG approved the MDWG Charter changes to add 2 additional members; however, it must go to MOPC, CGC, and BOD for approval. Nate Morris stated that once the charter was approved, applications would be accepted through January 2016.

#### *Meeting Agenda*

The group was asked if anyone had any issues or needed more time to review the posted materials. There were no concerns from anyone for this meeting.

The agenda was reviewed by the group. There were two additions made by Staff which were an SPP.org update, and Lean Activity Area Contacts. Brian Wilson motioned to approve the agenda with changes; Jason Shook seconded the motion. The motion passed unopposed. **(Attachment 1 - MDWG Meeting Agenda 20150915.docx)**

#### *Meeting Minutes*

The June 26, 2015 minutes were open for review. Jason Shook motioned to approve the minutes. John Boshears seconded the motion. The motion passed unopposed. **(Attachment 2 - MDWG Minutes June 26, 2015.doc)**

#### **Agenda Item 2 – SPP.org Update:**

Derek Wingfield gave a brief presentation of the new SPP.org website. He stated that all are encouraged to create a profile prior to the deadline to make sure individuals don't miss out on any working group announcements. **(Attachment 3 - SPP.org Sneak Peek.pptx)**

#### **Agenda Item 3 – 2016 Series Model Building Activities:**

For the MDWG Powerflow models, Anthony Cook reminded everyone that post processing topology idevs submitted after the finalization of the models and idevs submitted during the ITPNT process do not get re-ran for inclusion in the next series model build. It is the responsibility of the individual submitters to create MOD projects for inclusion in future model builds.

Anthony discussed the MMWG approved model list for the 2016 series build. He stated that there are now two models that won't align with any of the models that are being built for the 2016 MDWG effort. He stated that the two models are 2018 Light Load and 2021 Summer Shoulder. He also stated that the issue is the need for load and generation profiles and not topology since the MDWG is building 2018 Spring and 2021 Summer models. A suggestion was made to apply the 2017 Light Load profiles to the 2018 Spring topology to create the 2018 Light Load model. Members will submit profile idevs and transaction updates to run on the 2021 Summer model to create the 2021 Summer Shoulder model. The request will be sent out after the MDWG Powerflow models are finalized.

**(Attachment 4&6 - 2016 Series Model Selection\_Update.xlsx)**

**AI: SPP Staff request 2021 Summer Shoulder profile idevs and transactions after the 2016 Series MDWG Powerflow models are finalized.**

**AI: Members submit 2021 Summer Shoulder profiles and transactions upon request.** Scott Jordan discussed the status of the Policy & Accountability project of the Modeling LEAN initiative. He stated that SPP Staff has been developing a document with the aid of four of the

MDWG members who participated in the SPP Modeling LEAN initiative. The document is currently under review by the four members.

John Mills discussed the status of the Area Contact project of the Modeling Lean initiative. He stated that the four members suggested in the Lean workshop that a specific contact at SPP be assigned to an area and presented the assignments document. This would allow for the work to be spread amongst the modeling staff and allow for members to get to know others within the modeling group. He stated that this effort is to streamline the process and help staff understand the individual systems better. The breakout also includes all LSEs within the planning area. This document will be effective as of the posting. (**Attachment 5 - Area Contacts.xlsx**)

For the MDWG Dynamic models, Anthony stated that NPPD requested adding 2017 Spring to the list of dynamic models to be built for the 2016 Series. Dustin Betz stated that it shouldn't be burdensome since a 2017 Light Load case is being built. SPP Staff doesn't have any issues with adding the model. Hearing no other discussion, Dustin Betz motioned to add the 2017 Spring to the list of Dynamic models for the 2016 Series. Derek Brown seconded the motion. The motion passed unopposed.

(**Attachment 4&6 - 2016 Series Model Selection\_Update.xlsx**)

**AI: Staff to add 2017 Spring model to the list of 2016 Series Dynamic models.**

Anthony gave an overview of the status of the model building schedule and the importance for data submissions to be provided during the MDWG build and not waiting until the ITPNT build.

For the ITPNT Powerflow models, Nate discussed TWG requesting information on how to model DC ties. Reené discussed the history of modeling generators for the DC ties and now modeling the tie explicitly. Zack stated that in Scenario 0 (S0) of the ITPNT, the ties are modeled as in the MDWG. However, in Scenario 5 (S5) the practice has been to bias the direction per historical flows. During the ITPNT build, WAPA/Basin requested to bias their DC ties with a flow of east to west in S5 which is in the opposite direction than historical flow. This prompted a review into the DC tie modeling methodology for future ITPNT model builds. Nate asked SPP Staff to provide a spreadsheet of the DC ties in order to send out for data gathering purposes by the members.

**AI: SPP Staff to create a list of DC tie owners/submitters within SPP and gather contact information external to SPP. Post by Friday, September 18, 2015.**

**AI: Request information of desired modeling practice for DC tie flows from members and request response due by October 1, 2015.**

Anthony raised discussion on whether the ITPNT models will be dispatched using a block dispatch or with ECDI files in future builds. Reené stated that he ran a check between the two sets provided and prefer the block dispatch over the ECDI. Derek stated that he saw very little difference between the two dispatches. He stated that ECDI makes more sense for annual updates, but the files would have to be reviewed for accuracy. John Boshears stated that he didn't see a difference in the two dispatches for his system. Zack explained the differences between the block and ECDI dispatches. He also stated that very few members submitted updates to the block dispatch for their system. He stated that SPP doesn't have a recommendation since different issues could arise depending on the dispatch and this needs to be a decision made by the members. John Mills stated that we are in an economic environment and should be planning with by an economic dispatch. John Boshears added that issues are being seen in Operations that are not being caught in the planning models. Wayne Haidle

asked how ECDI handles must run units. Zack answered that priorities can be set in the files for RMR units. Reené asked if SPP would withdraw NTCs if issues go away the next year since the market dispatch changed year to year, season to season. Anthony stated that NTCs can be re-evaluated by SPP and its members currently; however, NTCs are baked into the models from the beginning of the next model build cycle. Nate asked SPP Staff to supply data (dispatch, models, ACCC, docucheck, etc.) to the members for review and contact information for the economic data. He stated that the members are to review the data October – December and provide feedback. He wants to have a call in January to discuss the review and potentially make a decision in February.

**AI: SPP Staff to supply data (dispatch, models, ACCC, docucheck, etc.) to the members for review and contact information for the economic data.**

**AI: Members review the data October – December and provide feedback.**

Anthony discussed that MOD is still being worked on to get upgraded. He stated that any entity not in MOD can submit idev files for corrections until they are incorporated into the new MOD system.

#### **Agenda Item 4 – Manual Discussion:**

This topic has been tabled.

#### **Agenda Item 5 – Administrative Items:**

##### **Summary of Action Items**

- **PP Staff request 2021 Summer Shoulder profile idevs and transactions after the 2016 Series MDWG Powerflow models are finalized.**
- **Members submit 2021 Summer Shoulder profiles and transactions upon request.**
- **Staff to add 2017 Spring model to the list of 2016 Series Dynamic models.**
- **SPP Staff to create a list of DC tie owners/submitters within SPP and gather contact information external to SPP. Post by Friday, September 18, 2015.**
- **Request information of desired modeling practice for DC tie flows from members and request response due by October 1, 2015.**
- **SPP Staff to supply data (dispatch, models, ACCC, docucheck, etc.) to the members for review and contact information for the economic data.**
- **Members review the data October – December and provide feedback.**

##### **Future Meetings**

- Conference Call October
- Conference Call January
- Conference Call December

##### **Adjourn Meeting**

With no further business to discuss, Nate asked for a motion to adjourn. Scott Schichtl motioned to adjourn the meeting, Reené Miranda seconded the motion. The motion passed unopposed. The meeting adjourned at 12:18 p.m.

Respectfully submitted,  
Anthony Cook  
SPP Staff Secretary

MDWG

9-15-2015

8-12 pm  
am

<u>Name</u>	<u>Company</u>
* James Remley	Westar Energy
* Derek Brown	Westar Energy
Zack Bearden	SPP
* Dustin Betz	NPPD
* VATE MORRIS	EDE
Brandon Hentschel	SPP
* JASON SHOOK	GDS/ETEC
John Mills	SPP
Derek Wigfield	SPP
* Jeff Wits	EDE
* JERAD ETHRIDGE	OGE
* Alex Lanphere	OGE
* Jerry Bradshaw	City Utilities Spfa
* Kevin Foflygen	City Utilities Spfd
* John Boshears	"
* Brian Wilson	KCPL
Mike Hughes	SPP RE
* John Payne	KREK
Scott Jordan	SPP
* Renee Miranda	Xcel Energy / SPS
* Aravind Chollappa	SPS
* MARK REINHART	GSEC
* Scott Schichtl	AEC
Bruce Doll	MEANS
Holli Krizek	WAPA

\* Also at Model update meeting 1-5 pm.

<u>Name</u>	<u>Company</u>
Reene Miranda	Xcel Energy / SPS
Aravind Chollappa	SPS
MARK REINHART	GSEC
James Remley	Westar
Derek Brown	Westar
JASON SHOOK	GDS/ETEC
NATE MORRIS	EDE
Jeff Lites	EDR
Jerry Bradshaw	City Utilities of Spfd
Kevin Foflygen	City Utilities of Spfd
John Boshuys	"



**Southwest Power Pool, Inc.**  
**MODEL DEVELOPMENT WORKING GROUP**  
**September 15, 2015**  
**SPP Corporate Office Little Rock, AR**

**• A G E N D A •**

Tuesday 8:00 a.m. – 12:00 p.m.

1. Administrative Items ..... Nate Morris (30 min)
  - a. Call to Order
  - b. Introductions
  - c. Proxies
  - d. Group Membership Update
    - i. Open position
  - e. Agenda Review (Action Item)
    - i. Meeting Materials
  - f. Previous Meeting Minutes (Action Item)
    - i. June 26, 2015 Conference Call
2. SPP.org Update ..... Derek Wingfield (10 min)
3. 2016 Series Model Building Activities ..... All (2 hr)
  - a. MDWG Powerflow
    - i. Post Processing/ITPNT idevs
    - ii. Model List Update
      1. MMWG Model List
    - iii. Lean Activity: Policy & Accountability
    - iv. Lean Activity: Area Contacts
  - b. MDWG Dynamics
    - i. List of Models
      1. 2017 Spring Request
    - ii. Schedule Review
  - c. ITPNT Powerflow
    - i. DC Tie Modeling (TWG Action Item)
    - ii. Block Dispatch vs. ECDI Dispatch
  - d. MOD Upgrade Status
4. Manual Discussion .....All (45 min)
  - a. Typical Transmission Line Data
  - b. Model Release Guidelines
  - c. Steady-State Modeling Guidelines
    - i. Modeling Detail
5. Administrative Items ..... Nate Morris (15 min)

*Relationship-Based • Member-Driven • Independence Through Diversity*

*Evolutionary vs. Revolutionary • Reliability & Economics Inseparable*

- a. Summary of Action Items
- b. Future Meeting
- c. Adjourn





**Southwest Power Pool, Inc.  
Model Development Working Group  
June 26, 2015  
Conference Call  
9:30A.M. – 11:30 A.M.**

**• M I N U T E S •**

**Agenda Item 1 - Administrative**

The meeting was called to order at 9:42 a.m. The following Model Development Working Group (MDWG) members were in attendance:

Nate Morris, Chair – Empire District Electric Company  
John Boshears - City Utilities of Springfield  
Derek Brown – Westar Energy  
Joe Fultz – Grand River Dam Authority  
Reené Miranda – Southwestern Public Service  
Scott Schichtl – Arkansas Electric Cooperative Company  
Jason Shook – GDS Associates  
Liam Stringham – Sunflower Electric Power Corporation  
Brian Wilson – Kansas City Power & Light

SPP Staff in attendance included Anthony Cook (Secretary), Scott Jordan, and John Mills.

The following guests were also in attendance:

Hongmou Lao – American Electric Power  
Harold Wyble – Kansas City Power & Light  
Aravind Chellappa, Clarence Campbell – Southwestern Public Service  
Jerry Bradshaw - City Utilities of Springfield  
Gimod Olapurayil, Michael Wegner – ITC Great Plains  
Mark Reinart – Golden Spread Electric Cooperative  
James Thomas Jr. – Oklahoma Gas & Electric  
Bruce Doll – Municipal Energy Agency of Nebraska  
Thomas Mayhan – Omaha Public Power District  
Dave Sargent, Mark Robinson – Southwestern Power Administration  
Noumvi Ghomsi – Public Service Commission of Missouri  
Ben Hammer – Western Area Power Administration - Upper Great Plains Region  
Jason Hofer – Nebraska Public Power District  
John Payne – Kansas Electric Power Cooperative, Inc.  
John Turner – Kansas City Board of Public Utilities  
Alan Burbach – Lincoln Electric System  
Alex Mucha – Oklahoma Municipal Power Authority

*Proxies*

Jason Hofer for Dustin Betz

*Meeting Agenda*

The group was asked if anyone had any issues or needed more time to review the posted materials. There were no concerns from anyone for this meeting.

The agenda was reviewed by the group. Reené Miranda motioned to approve the agenda; Scott Schichtl seconded the motion. The motion passed unopposed.

**(Attachment 1 - MDWG Meeting Agenda 20150626.docx)**

*Meeting Minutes*

The May 20-21, 2015 minutes were open for review. Corrections to Agenda items 2 and 7 were made. Jason Shook motioned to approve the minutes as amended. Brian Wilson seconded the motion. The motion passed unopposed.

**(Attachment 2 - MDWG Minutes May 20-21, 2015.doc)**

**Agenda Item 2 – Manual Updates:**

Nate informed the group of the effort the manual subcommittee had invested making the MDWG Procedure Manual compliant with the NERC MOD-032-R1 standard. The group then reviewed the changes to the manual and made appropriate changes. Reené Miranda motioned to approve the updated manual as edited. Derek Brown seconded the motion. The motion passed unopposed. **(Attachment 3 - SPP MDWG Model Development Procedure Manual (Public)\_20150630.doc)**

**AI: Add an introduction for the Short Circuit models.**

**AI: Revisit language for non-PSS/E users in section 3.**

**AI: Revisit language for Appendix V item 1.**

**Agenda Item 3 – Administrative Items:**

**Summary of Action Items**

- **Add an introduction for the Short Circuit models.**
- **Revisit language for non-PSS/E users in section 3.**
- **Revisit language for Appendix V item 1.**

**Future Meetings**

- Face-to-Face September 15
- Face-to-Face Model Update meeting September 15-16

**Adjourn Meeting**

With no further business to discuss, Nate asked for a motion to adjourn. Reené Miranda motioned to adjourn the meeting, Jason Shook seconded the motion. The motion passed unopposed. The meeting adjourned at 11:44 a.m.

Respectfully submitted,  
Anthony Cook  
SPP Staff Secretary

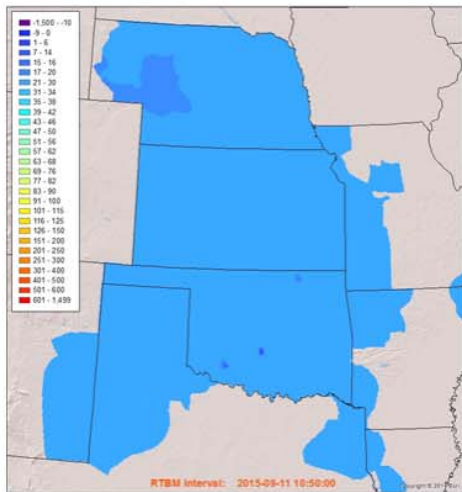


Welcome to the new SPP website!

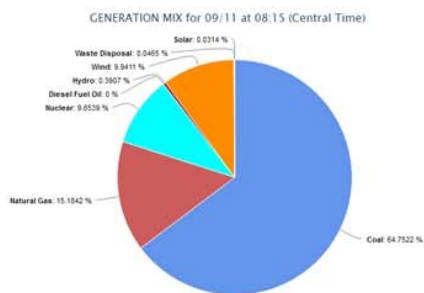
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Helping our members work together to keep the lights on... today and in the future.

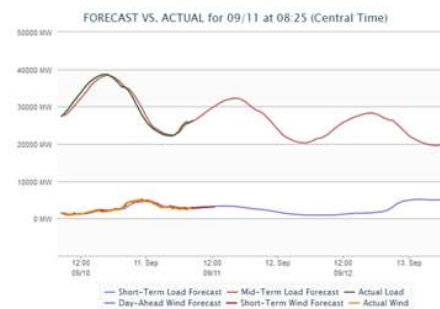
### Price Contour Map

[SEE MORE](#)

### Generation Mix

[SEE MORE](#)

### Forecast vs. Actual

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## CALENDAR of EVENTS

Title

Date

Location

## CALENDAR OF EVENTS

[Prev](#)
**September 2015**
[Next](#)

Mon	Tue	Wed	Thu	Fri	Sat	Sun
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11

Title	Date	Location	
<b>MWG Face to Face</b>	September 15-16, 2015	Dallas, Texas	<a href="#">MORE</a>
<b>MDWG Meeting</b>	September 15-16, 2015	Little Rock, Arkansas	<a href="#">MORE</a>
<b>TWG Net Conf</b>	September 16, 2015	Arkansas	<a href="#">MORE</a>
<b>CTPTF Meeting</b>	October 5, 2015	Dallas, Texas	<a href="#">MORE</a>
<b>CAWG In Person/WebEx/Tele</b>	October 6, 2015	Dallas, Texas	<a href="#">MORE</a>
<b>PCWG Meeting</b>	October 7, 2015	Arkansas	<a href="#">MORE</a>
<b>ORWG Conf Call</b>	October 8, 2015	Arkansas	<a href="#">MORE</a>
<b>SSC Meeting</b>	October 8, 2015	Dallas, Texas	<a href="#">MORE</a>
<b>HRC Meeting</b>	October 12, 2015	Little Rock, Arkansas	<a href="#">MORE</a>
<b>MOPC Meeting</b>	October 13-14, 2015	Little Rock, Arkansas	<a href="#">MORE</a>

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Southwest Power Pool  
 201 Worthen Drive • Little Rock, AR 72223-4936  
 (501) 614-3200 • [questions@spp.org](mailto:questions@spp.org)

<b>2016 Series Model Selection</b>							
<b>MMWG*</b>		<b>MMWG</b>	<b>MDWG</b>		<b>MDWG</b>		
<b>Power Flow Model</b>	<b>Dynamic Model</b>	<b>Year</b>	<b>Year</b>	<b>Season</b>	<b>Power Flow Model</b>	<b>Dynamic Model</b>	<b>Short Circuit Model</b>
			2016	Spring	X		
			2016	Summer	X		X
			2016	Summer Shoulder	X		
			2016	Fall	X		
			2016	Winter	X		
X	X		2017	Light Load	X	X	
			2017	Spring	X	X	
X	X		2017	Summer	X	X	
			2017	Summer Shoulder	X	X	
			2017	Fall	X		
X	X		2017	Winter	X	X	
			2018	Spring	X		
X			2018	Light Load			
X			2018	Summer	X	X	
X			2018	Winter	X		
X	X		2021	Light Load	X	X	
X	X		2021	Summer	X	X	X
X			2021	Summer Shoulder			
X	X		2021	Winter	X	X	
X	X		2026	Summer	X	X	
X	X		2026	Winter	X		

MMWG: Multiregional Modeling Working Group

MDWG: Model Development Working Group

\*MMWG models currently not supported by SPP MDWG build

## **TWG's Email Voting Protocols**

### Standard Email Vote

- 1) Prior to an email vote, there will be a one week formal comment period for all members to submit concerns.
  - a. If there are no outstanding concerns at the end of the comment period, TWG will proceed to step 2.
- or-
- b. If concerns remain outstanding beyond the formal comment period, TWG will hold a teleconference to discuss the topic in a timely manner. On the teleconference, TWG may decide to vote or repeat step 1.
- 2) Once an item is ready for an email vote, staff will send an email to TWG soliciting a motion and second on the item within two business days. Once received, TWG will proceed with the email vote lasting a minimum of three business days. The chair has the ability to extend the email voting period as necessary.
- 3) Results of email votes will be sent to the TWG and be adjoined to minutes.

### Expedited Email Vote

In the case that an expedited vote is needed, the TWG Chair (or Vice-Chair, if Chair is unavailable), at his or her sole discretion, may determine an expedited email vote is necessary. If the Chair (or Vice-Chair) makes this determination, the following process will apply:

- 1) Staff will send an email soliciting a motion and a second to the TWG Members Only distribution list. Once received, TWG will proceed with an email vote ending no sooner than one business day, with the ending specified by the Chair (or Vice Chair) prior to the opening of the vote.
- 2) Results of the email vote will be distributed to the TWG Exploder and adjoined to meeting minutes.