



SOUTHWEST POWER POOL, INC.

MODEL DEVELOPMENT ADVISORY GROUP MEETING

October 20, 2022

Conference Call

9:00 a.m. – 12:00 p.m. (CST)

AGENDA

1. Administrative Items.....John Turner (10 mins)
 - a. Call to Order
 - b. Antitrust Statement
 - c. Attendance
 - d. Proxies
 - e. Agenda Review (**Approval Item**)
 - i. Acknowledgment for the posting of meeting materials
 - f. Previous September Meeting Minutes (**Approval Item**)
2. Review of Past Action Items Lottie Jones (10 mins)
3. Member Solicitation (**Approval Item**)Lottie Jones (10 mins)
4. 2022-2023 Roadmap Cycle.....Kristen Darden (10 mins)
5. 2022 series MDAG Model Build for the 2023 TPL
 - a. Dynamics..... Zach Sabey/Theo Brown (5 mins)
6. Focus Group/Task Force Updates
 - a. Renewable Assumptions Dispatch Task Force(**Approval Item**).....David Duhart (10 mins)
 - b. MDAG Focus GroupJohn Turner/Becca McCann (5 mins)
 - c. Manual Task Force..... Brandon Hentschel (10 mins)
7. CPPTF Common Model(**Approval Item**)..... Brandon Hentschel (30 mins)
 - a. Common topology recommendation
8. 2023 series MDAG Model Build/Application Updates
 - a. PowerflowBecca McCann/Lottie Jones (15 mins)
 - i. MMWG Powerflow Update
 - b. Short CircuitEric Sullivan (10 mins)
 - c. MOD-033Eric Sullivan (15 mins)

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.



- d. Dynamics Zach Sabey/Theo Brown (5 mins)
- 9. MDAG Consolidation Proposal.....John Turner (15 mins)
- 10. Summary of Action Items Lottie Jones (5 mins)
- 11. Discussion of Future Meetings John Turner (5 mins)

All meeting times are represented in the central time zone

- a. MDAG: November 17, 2022 (9:00 AM – 12:00 PM)
 - i. *Bring calendars to November meeting to discuss 2023 meeting schedule*
- b. MDAG Focus Group: November 8, 2022 (1:00 PM – 3:00 PM)

- 12. Focus Group Poll Results Lottie Jones (5 mins)
- 13. Adjourn..... All

* The approval items denoted with "*" shall be jointly developed by PC, TP, and MDAG

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Attendance worksheet

1. Input your group's name in A1

2. Enter your representative information

- A. Enter the names of your rostered representatives in column A, beginning with your name (staff secretary) in row 7
- B. Enter the company name for each of the rostered representatives in column B, beginning with "SPP" in row 7

2. Enter your meeting details

- A. Enter your meeting dates beginning in column C, row 1 and continue across the worksheet until all meeting dates are entered
- B. Enter the actual duration for each meeting beginning in column c, row 2. Round to the nearest .5 hours.
- C. Enter the actual number of votes taken per meeting beginning in column c, row 3. **Do not count** administrative votes such as votes to approve the agenda or adjourn the meeting. When counting consent votes, count one vote for each item under the consent topic. Do not count a consent vote as 1 if it includes multiple items.
- D. Enter the total number of attendees for each meeting beginning in column c, row 4
- E. Enter the meeting format for each meeting beginning in column c, row 5

3. Track attendance at each meeting per representative

- A. For yourself and each member note how the individual attended the meeting using the drop down for the cell. Options are webex, in-person, proxy, absent or non-member. Non-member is to be used for those who were members for only part of the assessment period. If you have a member that joined or left the group during the assessment period, utilize the non-member option for all meetings in which they were not considered a rostered member of the group.

Org Report Survey worksheet

1. Enter member demographic data

- A. Indicate Yes if the member is current and No if they are no longer a part of the group
- B. Enter the type of member for each representative in column D
- C. Enter the sector type for each representative in column E
- D. If a representative leaves mid assessment period add a red asterick in front of their name

2. Enter Yes or No to indicate the status of your scope review in L8

3. Enter Assessment Period in A2

Model Development Advisory Group

August 2021 - July 2022

Name	Company	Is Current Member?
Alex Mucha	Oklahoma Municipal Power Authority	Yes
Andrew Berg	Missouri River Energy Services	Yes
Brianna Haug (Vice Chair)	Western Area Power Administration	Yes
Dustin Betz	Nebraska Public Power District	Yes
Holli Krizek	Western Area Power Administration	No
Jason Shook	GDS Associates	Yes
Jerad Ethridge	Oklahoma Gas and Electric Company	No
Jeremy Harris	KCP&L and Westar, Evergy Companies	No
Jerry Bradshaw	City Utilities of Springfield	Yes
Joe Fultz	Grand River Dam Authority	Yes
John Boshears	City Utilities of Springfield	No
Liam Stringham	Sunflower Electric Power Corporation	Yes
Preston Blinsky	Basin Electric Power Cooperative	Yes
Reené Miranda	Southwestern Public Service	Yes
Ryan Benton	Midwest Energy	Yes
Scott Rainbolt	American Electric Power	Yes
Scott Schichtl	Arkansas Electric Cooperative Corporation	Yes
Steve Hohman	Omaha Public Power District	Yes
Sunny Raheem	SPP	No
Tyler Baxter	Corn Belt Power Cooperative	Yes
Amine Chenaf	DNV	No
Andrew Howard	Lincoln Electric System	No
Antonio Barrera	Southwestern Public Service	No
Armin Sehic	Nebraska Municipal Power Pool	No
Becca McCann	SPP	No
Brandon Hentschel	SPP	No
Brooke Keene	SPP	No
John Turner (Chair)	Western Farmers Electric Power	Yes
Bruce Doll	Nebraska Municipal Power Pool	No
Casey Cathey	SPP	No
Chris Colson	Western Area Power Administration	No
Conner Sweet	City Utilities of Springfield	No
David Duhart	SPP	No
David Zhong	American Electric Power	No
Diego Toledo	Grand River Dam Authority	No

Edin Terzic	Lincoln Electric System	No
Eli Nyambegera	Sunflower Electric Power Corporation	No
Ellen Cook	SPP	No
Frank Favela	Southwestern Public Service	No
Garrick Nelson	Western Area Power Administration	No
Grace Bouziden	Oklahoma Gas and Electric Company	No
James Okenfuss	Savion Energy	No
Jason Menke	Nebraska Public Power District	No
Jeff Plew	NextEra	No
Jeremy Severson	Basin Electric Power Cooperative	No
Jesse Kreutzfeldt	Missouri River Energy Services	No
Joe Williams	Western Farmers Electric Power	No
John Mayhan	Omaha Public Power District	No
John Vara	Golden Spread Electric	Yes
Kim Farris	SPP	No
Kimberly Woods	SPP	No
Mae Cruz	Southwestern Public Service	No
Marc Moor (Eversy)	Eversy	No
McKady Kellam	Eversy	No
Mike Swan	Omaha Public Power District	No
Moses Rotich	Gridliance	No
Nolan Fertig	SPP	No
Peter Jones	Savion	No

Member Type	Sector	Present	Proxy	Absent	Percent Present
Staff	RTO	9	0	2	82%
Staff	RTO	10	0	0	100%
TO	Investor Owned Utility	11	0	0	100%
TU	Cooperative	11	0	0	100%
TU	Cooperative	0	0	0	N/A
TO	Cooperative	8	0	3	73%
TU	Municipal	#REF!	#REF!	#REF!	N/A
TO	State	4	0	0	100%
TO	Cooperative	9	1	1	91%
TO	State	9	1	1	91%
TO	Investor Owned Utility	0	0	0	N/A
TO	Federal	10	1	0	100%
TO	State	8	2	1	91%
TU	Investor Owned Utility	7	4	0	100%
TU	Municipal	7	0	2	78%
TU	Investor Owned Utility	9	2	0	100%
TU	Investor Owned Utility	10	1	0	100%
TU	Cooperative	11	0	0	100%
TO	Cooperative	1	0	0	100%
TO	Cooperative	9	1	1	91%

Annual Assessment Totals

Average Length of Meetings (hrs)	3
Number of Votes Taken	48
Average Overall Attendance	60
Total Meetings this Assessment	14
Live	1
Teleconference	13
Scope Reviewed	No

Transmission Owner(s)	7
Transmission User(s)	6
Director(s)	0

Investor Owned Utility	4
Cooperative	5
Municipal	1
State	2
Federal	1
Independent Power Producer / Marketer	0
Independent Transmission Company	0
Large Retail	0
Alt Power / Public Interest	0
Small Retail	0

MDAG MINUTES
September 21, 2022

SOUTHWEST POWER POOL
MODEL DEVELOPMENT ADVISORY GROUP MEETING

September 21, 2022 9:00 am – 12:00 pm (CST)

Conference Call

SUMMARY OF MOTIONS AND ACTION ITEMS

Action Items:

- **Action Item: Brianna and Lottie suggested moving the RAD recommendation topic to the next MDAG FG meeting to allow further discussion and moving the motion to a future MDAG meeting.**

Motions:

- **Motion: Alex Mucha motioned to approve the presented agenda with updates. Scott Schichtl seconded the motion. The group did not voice concerns during the discussion of the motion. The motion passed unanimously.**
- **Motion: Scott Schichtl motioned to approve the August 18, 2022, meeting minutes as presented. Steve Hohman seconded the motion. The group did not voice concerns during the discussion of the motion.**
- **Motion: Andrew Berg motioned to approve the MDAG Scope Review with the updates as shown. Alex Mucha seconded the motion. The group did not voice concerns during the discussion of the motion.**
- **Motion: Mae Cruz motioned to approve the chair nomination as presented. Steve Hohman seconded the motion. The group did not voice concerns during the discussion of the motion.**
- **Motion: Steve Hohman motioned to approve the system reduction recommendation as presented. Dustin Betz seconded the motion. The group did not voice concerns during the discussion of the motion.**
- **Motion: Steve Hohman motioned to approve the final dynamics model build contingent on updates. Andrew Berg seconded the motion. The group did not voice concerns during the discussion of the motion.**

MDAG MINUTES
September 21, 2022

Southwest Power Pool
MODEL DEVELOPMENT ADVISORY GROUP MEETING

September 21, 2022 9:00 am – 12:00 pm (CST)

Conference Call

MINUTES

AGENDA ITEM 1 – ADMINISTRATIVE ITEMS

AGENDA ITEM 1A & 1B – CALL TO ORDER AND ANTITRUST STATEMENT

SPP MDAG Chair, Brianna Haug, called the meeting to order at 9:01 a.m. (CST) with Quorum.
SPP Staff Secretary, Lottie Jones, read the anti-trust statement to the group.

MDAG MINUTES
September 21, 2022

AGENDA ITEM 1C & 1D – ATTENDANCE AND PROXIES

The following members attended or were represented by proxy:

MDAG Member	Present	Proxy	Present	Company
Tyler Baxter	Yes			Corn Belt Power Cooperative
Jerry Bradshaw	No	John Boshears	Yes	City Utilities of Springfield
Andrew Berg	Yes	Jesse Kreuzfeldt	Yes	Missouri River Energy Services
Dustin Betz	Yes			Nebraska Public Power District
Preston Blinsky	No	Brianna Haug	Yes	Basin Electric Power Cooperative
Joe Fultz	No			Grand River Dam Authority
Brianna Haug	Yes			Western Area Power Administration
Steve Hohman	Yes			Omaha Public Power District
Reené Miranda	No	Mae Cruz	Yes	Southwestern Public Service
Alex Mucha	Yes			Oklahoma Municipal Power Authority
Scott Rainbolt	Yes			American Electric Power
Scott Schichtl	Yes			Arkansas Electric Cooperative Corporation
Jason Shook	No			GDS Associates
Liam Stringham	Yes			Sunflower Electric Power Corporation
John Turner	Yes			Western Farmers Electric Power
Lottie Jones	Yes			Southwest Power Pool, Inc., MDAG Secretary
John Vara	No	David Mendoza	Yes	Golden Spread Electric
Ryan Baysinger	Yes			Eergy

Material: SEP21_Attach2- 1c. MDAG Conference Call Attendance-09-21-2022.xlsx

MDAG MINUTES
September 21, 2022

AGENDA ITEM 1E – AGENDA REVIEW (APPROVAL ITEM)

Brianna Haug asked the group if they had a chance to review the agenda and if the group had any modifications to the agenda.

Lottie Jones updated the agenda, moving the system reduction update before agenda item 6 the 2022 series MDAG Model Build/Application Updates

Motion: Alex Mucha motioned to approve the presented agenda with updates. Scott Schichtl seconded the motion. The group did not voice concerns during the discussion of the motion. The motion passed unanimously.

Material: SEP21_Attach1- 1e. MDAG Meeting Agenda

AGENDA ITEM 1F – PREVIOUS AUGUST 18, 2022 MEETING MINUTES (APPROVAL ITEM)

Lottie Jones asked the group if they had any proposed changes for the previous August 18, 2022, meeting minutes.

The group reviewed the meeting minutes and did not voice any additional changes

Motion: Scott Schichtl motioned to approve August 18, 2022, meeting minutes as presented. Steve Hohman seconded the motion. The group did not voice concerns during the discussion of the motion.

Material: SEP21_Attach3- 1f. August 18, 2022, Meeting Minutes.docx

MDAG MINUTES

September 21, 2022

AGENDA ITEM 2 – REVIEW OF PAST ACTION ITEMS

Lottie Jones discussed outstanding issues highlighted in red font, including the action items added from the last meeting. Lottie walked the group through updates on action items collected at the previous session and updates for existing in-progress action items.

- Action Item 176 (In-Progress) – no update at this time, to be brought up at the next MVTf
- Action Item 177 (In-Progress) – updated recommendation to be approved 9/21/22
- Action Item 182 (In-Progress) – Zach following up with Renee on the request, initial testing completed
- Action Item 184 (In-Progress) – to be brought up at the October MTF meeting
- Action Item 186 (Completed) – pending response email from Seimens, Becca mentioned that the current version of MOD does not allow this functionality but there is an effort to add this in to a future version of MOD
- Action Item 191 (In-Progress) – mark as complete once the recommendation is approved in the MDAG meeting today (9/21/22)
- Action Item 193 (In-Progress) – will be in October MDAG FG meeting
- Action Item 194 (In-Progress) – Review the CPPTF common model flow chart and bring it back to the September meeting.
- Action Item 195 (In-Progress) – Include the RAD TF discussion in the next MDAG meeting in September in order to come up with a recommendation.

AGENDA ITEM 3 – MDAG SCOPE REVIEW (APPROVAL ITEM)

SPP staff, Lottie Jones, posted the MDAG Scope review and has only noted one correction at this time. She mentioned that the scope seems to be missing item 7, so item 8 would change to item 7 and the date would be updated as well.

Andrew Berg mentioned that there should be representation from each planner as per MOD-032-1. Sunny mentioned that we currently have up to 24 voting seats within the group though it is open for participation in the discussion. Andy agrees to leave it as-is for the time.

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Motion: Andrew Berg motioned to approve the MDAG Scope Review with the updates as shown. Alex Mucha seconded the motion. The group did not voice concerns during the discussion of the motion.

AGENDA ITEM 4 – CHAIR NOMINATION (APPROVAL ITEM)

Brianna Haug discussed the chair nomination with the group:

“John Turner to Chair the current term for the MDAG. John Turner to be the nomination for Chair and Brianna Haug to be the nomination for Vice Chair for the Model Development Advisory Group until the next term renewal.”

Motion: Mae Cruz motioned to approve the chair nomination as presented. Steve Hohman seconded the motion. The group did not voice concerns during the discussion of the motion.

AGENDA ITEM 5 – SYSTEM REDUCTION (APPROVAL ITEM)

SPP staff, Josh Pilgrim, presented a system reduction topic to the group. SPP staff analyzed two different methods of reduction and no significant impact on footprint accuracy has been found. Josh provided details on both methods, as well as a comparison of the methods resulting in Josh presenting the below recommendation:

“SPP recommends using the Gen/Load Method and the proposed MDAG dynamics boundary (reduce tier 3 areas and beyond, retain all MRO areas) to reduce the MDAG power flow models.”

Due to member discussion, this discussion was tabled, and later brought back towards the end of the meeting with an approved motion.

Motion: Steve Hohman motioned to approve the system reduction recommendation as presented. Dustin Betz seconded the motion. The group did not voice concerns during the discussion of the motion.

AGENDA ITEM 6 – 2022 SERIES MDAG MODEL BUILD/APPLICATION UPDATES

AGENDA ITEM 6A – DYNAMICS (APPROVAL ITEM)

SPP staff, Zach Sabey, updated the group on the 2022 MDAG proposed final dynamics model build posting and future tasks (building TPL models with 2022 ITP portfolio updates). There were several updates received and included, which all are listed in 6a. dynamics presentation.

“Staff recommends that MDAG approve the 2022 MDAG Final Dynamic Models, contingent upon the updates being applied before posting.”

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- Recent Updates Deadline: 9/23/2022
- Anticipated Posting: 10/7/2022

After the 2022 models were approved, Zach provided detailed update on the next steps for the TPL models, as well provided additional dynamic model updates that will begin January 2023

Motion: Steve Hohman motioned to approve the final dynamics model build contingent on updates. Andrew Berg seconded the motion. The group did not voice concerns during the discussion of the motion.

AGENDA ITEM 7 – FOCUS GROUP/TASK FORCE UPDATES

AGENDA ITEM 7A – RENEWABLE ASSUMPTIONS DISPATCH TASK FORCE

Andrew Berg updated the group on the RAD task force discussion recommendation:

“RAD TF would like to use the historical and data-driven approaches demonstrated in the RAD TF to derive a DISIS Study Group-specific fuel-based dispatch (for wind). The dispatch percentages should have historical or forecast bases and reflected in RR493. To be reviewed every DISIS cycle (or annually if utilized by MDAG and ITP), and updated if the dispatch percentage changes by greater than +/-6%.”

- As with the latest available model series, we could use the latest available dispatch percentages

Dustin voiced his concerns against the recommendation as he believes that using an average is not appropriate for GI studies. He believes that a minimum and a maximum are more appropriate for these types of studies. Steve Hohman voiced some similar concerns as well.

Steve Hohman and Dustin Betz mentioned that this should not be an MDAG decision and should instead be left up to the GI MTF or the TWG to approve the recommendation.

Action Item: Brianna and Lottie suggested moving the RAD recommendation topic to the next MDAG FG meeting and moving the motion to a future MDAG meeting.

AGENDA ITEM 7B – MDAG FOCUS GROUP

SPP staff, Becca McCann, updated the group verbally on the last MDAG FG meeting.

The December MDAG FG meeting has been canceled and the system reduction and onboarding checklist were discussed during the last FG meeting in September.

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The RAD TF discussion and system reduction topic will be discussed at the next FG meeting in October.

AGENDA ITEM 7C – MANUAL TASK FORCE

The SPP staff, Brandon Hentschel, updated the group that the last MDAG MTF meeting was canceled. However, to please review material sent out to the MTF email distribution for October meeting

AGENDA ITEM 8 – 2023 SERIES MDAG MODEL BUILD/APPLICATION UPDATES

AGENDA ITEM 8A – POWERFLOW

SPP staff, Becca McCann, updated the group on the powerflow model build. Becca provided a status update, upcoming MDAG deadline and reminders and then open the floor for questions.

AGENDA ITEM 8B – SHORT CIRCUIT

SPP staff, Eric Sullivan, updated the group on the short circuit model build. Eric provided a status update, upcoming MDAG deadline and reminders, and then open the floor for questions

AGENDA ITEM 8C – MOD-033

SPP staff, Eric Sullivan, updated the group on the MOD-033-2 East powerflow model build. Eric provided NERC MOD-033-2 standard background information, review the MOD-033 process, presented the results from the 2021 event student, and informed MDAG of upcoming deadlines and reminders

AGENDA ITEM 9 – CPPTF COMMON MODEL

SPP staff, Brandon Hentschel, updated the group on the CPPTF common model discussion.

The CPPTF common model will be very similar to the Base Reliability (BR) models; however, it is designed to help clean up some of the issues related to using the BR models, such as mapping to GI.

Potential MDAG Recommendations:

- Define the topology for the CPP Common Model set, as shown in slide 5.
- Dispatch the CPP Common Model using a firm transmission service.

MDAG MINUTES

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- At a minimum, the Common Model set should include the year/seasons necessary for the MMWG and also include any additional year/seasons desired for the CPP Common Model

This topic will be on the MDAG agenda for the next several months to ensure that MDAG has a strong recommendation to support CPPTF working groups.

AGENDA ITEM 10 – MEMBER SOLICITATION

SPP staff, Lottie Jones, notified MDAG that there are two vacant seats and would like to get the group's input on filling the vacancies before the end of the year. Jerad Ethridge and Ryan Benton stepped down from their MDAG positions. Interim chair, Brianna Haug, suggested having both seats open and available for solicitation. Alex Mucha concurred with Brianna. There was clarification provided that only one seat per member company could be occupied. Without any remaining discussion or questions, MDAG agreed to solicit membership to fill the two vacant seats in MDAG.

AGENDA ITEM 11 – SUMMARY OF ACTION ITEMS

Brianna and Lottie suggested moving the RAD recommendation topic to the next MDAG FG meeting and moving the motion to a future MDAG meeting.

AGENDA ITEM 12 – DISCUSSION OF FUTURE MEETINGS

- MDAG: October 20, 2022 (9:00 AM – 12:00 PM)
- Manual Task Force: October 13, 2022 (10:00 AM – 12:00 PM)
- MDAG Focus Group: October 11, 2022 (1:00 PM – 3:00 PM)

AGENDA ITEM 13 – ADJOURN

Brianna Haug adjourned the meeting at 11:52 a.m. (CST).

Respectfully Submitted,

Lottie Jones
Secretary

Attachments

SEP21_Attach1- 1e. MDAG Meeting Agenda.docx

MDAG MINUTES
September 21, 2022

SEP21_Attach2- 1c. MDAG Conference Call Attendance-9-21-2022.xlsx

SEP21_Attach3- 1f. August 18, 2022, Meeting Minutes.docx

SEP21_Attach4- 3. MDAG System Reduction.pptx

SEP21_Attach5- 4. MDAG Scope Review.pdf

SEP21_Attach6- 6a. 2022 series MDAG Dynamics model build update.pptx



RENEWABLE ASSUMPTIONS DISPATCH TASK FORCE

ANDY BERG/DAVID DUHART



RECOMMENDATION

- MDAG would like to approve the completion of TWG task of providing how 5 year average is compiled; and reviewing the DISIS Study Group-specific fuel-based dispatch (for wind) number and comparing it with Operational Data provided by SPP Operations. MDAG RAD TF will give GIMTF the data collected from SPP Operations.



CPPTF SCRIPT C3 COMMON MODEL SET GUIDANCE

MDAG

OCTOBER 2022

*Working together to responsibly and economically
keep the lights on today and in the future.*



SouthwestPowerPool



SPPorg



southwest-power-pool

SCRIPT C3 COMMON MODEL SET GUIDANCE

C3 COMMON MODEL SET SUB-RECOMMENDATIONS OVERVIEW

RECOMMENDATION	NAME	PRIMARY	SECONDARY
C3.1	Common Base Model Set Configuration	MDAG	TWG, ESWG, GIUF, TSUF
C3.2	Common Model Set Dispatch Assumptions	CPPTF	TWG, MDAG, ESWG, GIUF, TSUF
C3.3	MPM Model Development	ESWG	TWG
C3.4	Base Model Set Automation	Staff	CPPTF, TWG, ESWG, MDAG
C3.5	Base Model Benchmarking Consolidation	MDAG	TWG

C3.1 SUB-RECOMMENDATION

NAME	ASSOCIATED SCRIPT C3 REQUIREMENT	CPPTF IDENTIFIED IMPROVEMENTS
Common Base Model Set Configuration	<ul style="list-style-type: none">• The base reliability models should meet NERC TPL and MOD planning standards such as TPL-001, MOD-030 and MOD-032.• The new base reliability models will be utilized for the Eastern Interconnection Reliability Assessment Group Multi-Regional Model Development Working Group (ERAG MMWG) submission.• The new base reliability models will be the starting base model assumptions utilized to build out customer service and transmission assessment scopes and requirements.	<ul style="list-style-type: none">• Combine MDAG and ITP BR reliability model series• Optimal timing for annual model development and external data consideration• Base reliability model "initial-final" to "approved final" shelf-life and late data submission process improvement• Generator Interconnection model maintenance reduction

C3.1 DRAFT COMMON TOPOLOGY

NAME	TOPOLOGY
Common Topology (MOD – Models on Demand)	<ul style="list-style-type: none">· EXISTING EQUIPMENT<ul style="list-style-type: none">∅ CORRECTIONS AND UPDATES · SPP-APPROVED UPGRADES<ul style="list-style-type: none">∅ NTC PROJECTS • TO PLANNED PROJECTS • AQ<ul style="list-style-type: none">∅ Approved load delivery points∅ Associated upgrades or topology changes • GI<ul style="list-style-type: none">∅ GIA or IGIA and not on suspension∅ Include non-firm generators with offline status

C3.1 COMMON MODEL SET CASE SELECTION EXAMPLE

- Likely 2023 Series MMWG Power Flow

Year	Season
2024	Spring Light Load
2024	Summer Peak
2024/25	Winter Peak
2025	Spring Light Load
2025	Summer Peak
2025/26	Winter Peak
2028	Spring Min Load
2028	Summer Shoulder
2028	Summer Peak
2028/29	Winter Peak
2033	Summer Peak
2033/34	Winter Peak

- 2024 ITP Power Flow

Year	Season
2024	Summer Peak
2024	Fall
2024/25	Winter Peak
2025	Spring Light Load
2025	Spring
2025	Summer Peak
2025	Fall
2025/26	Winter Peak
2028	Spring Min Load
2028	Summer Peak
2028/29	Winter Peak
2033	Spring Min Load
2033	Summer Peak
2033/34	Winter Peak

- Common Model Set

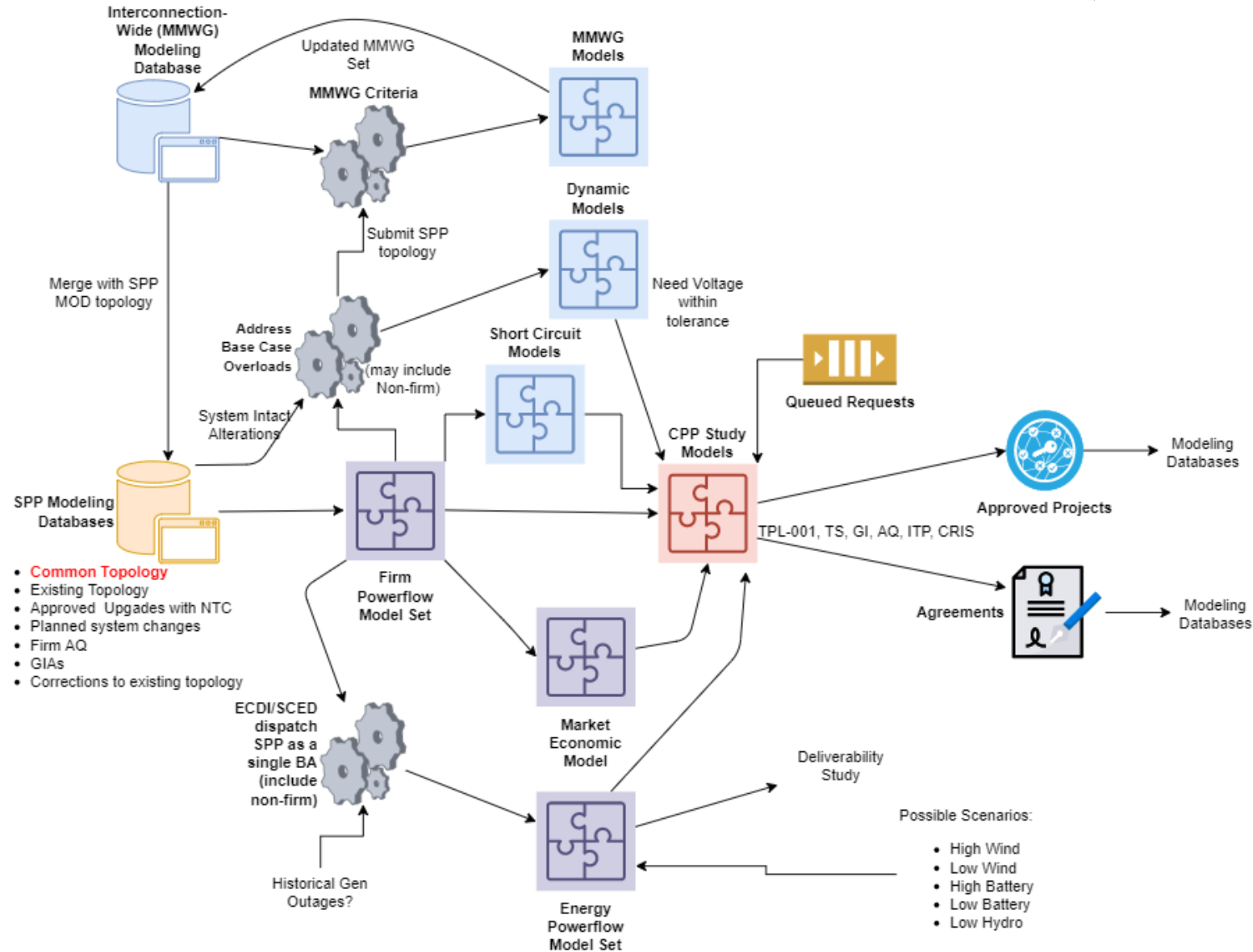
Year	Season
2024	Spring Light Load
2024	Summer Peak
2024	Fall
2024/25	Winter Peak
2025	Spring Light Load
2025	Spring
2025	Summer Peak
2025	Fall
2025/26	Winter Peak
2028	Spring Min Load
2028	Summer Shoulder
2028	Summer Peak
2028/29	Winter Peak
2033	Spring Light Load
2033	Summer Peak
2033/34	Winter Peak

MMWG CRITERIA:

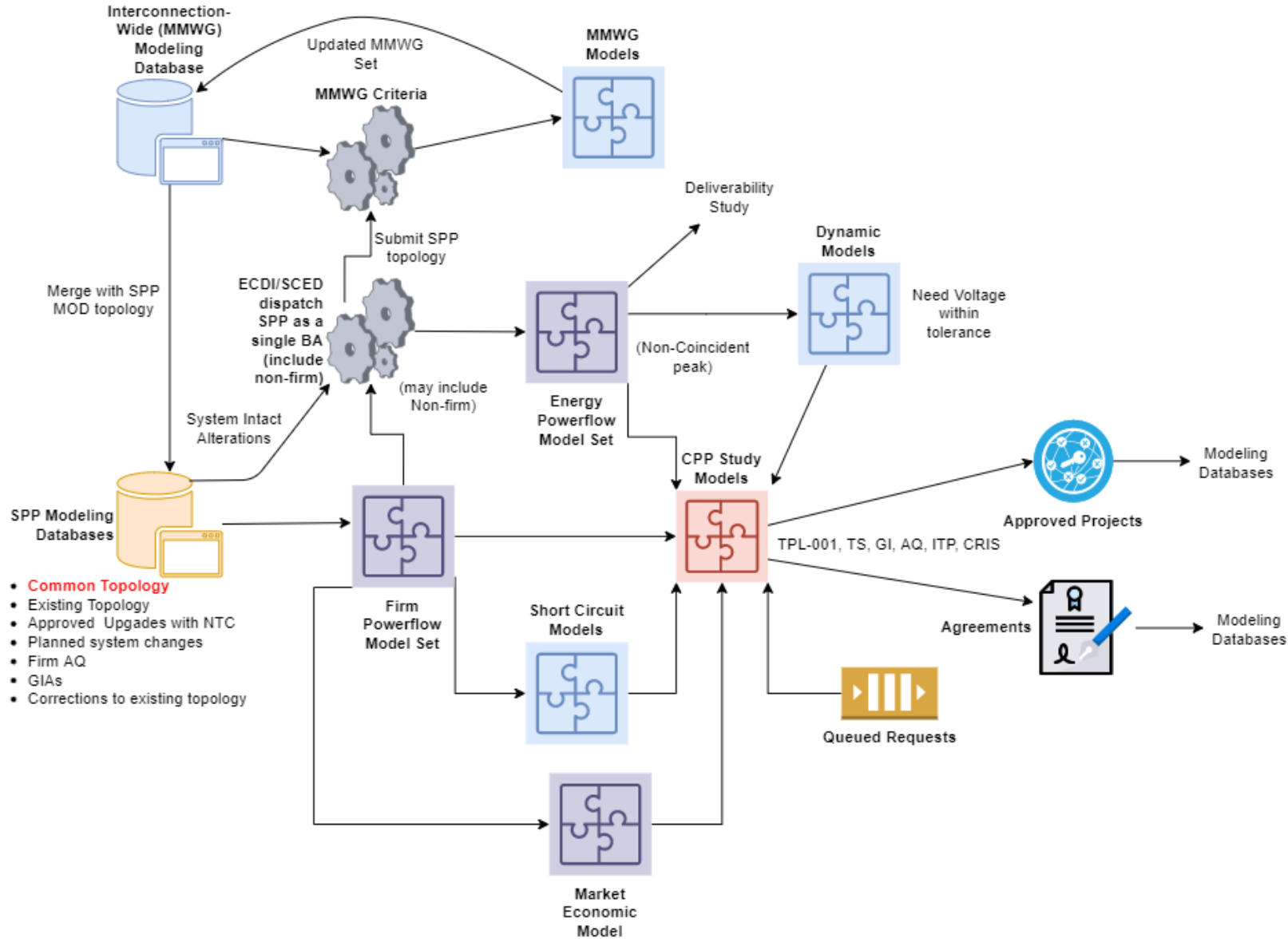
- Before submitting the SPP region to the MMWG, changes must be made to the Common Models to address voltage or thermal base case flows that are outside the ranges in the criteria below per the MMWG procedure manual.
 - Voltage for buses ≥ 100 kV
 - Conditions not allowed: $VM > 1.1$ p.u., $VM < 0.9$ p.u.
 - Document exceptions
 - Branch Overloads
 - Branches ≥ 69 kV
 - Transformers ≥ 69 kV
 - Two buses (of three) with $BASKV \geq 69$ kV
 - Overloads in the Near-Term with no plans to correct are not allowed. Ten-year cases often contain branches or transformers that will be upgraded but no plans exist. Transformers checked for loading in MVA, non-transformer branches in current.

https://rfirst.org/ProgramAreas/ESP/ERAG/MMWG/ERAG%20%20MMWG%20Library/MMWG_Procedural_Manual_V30.pdf

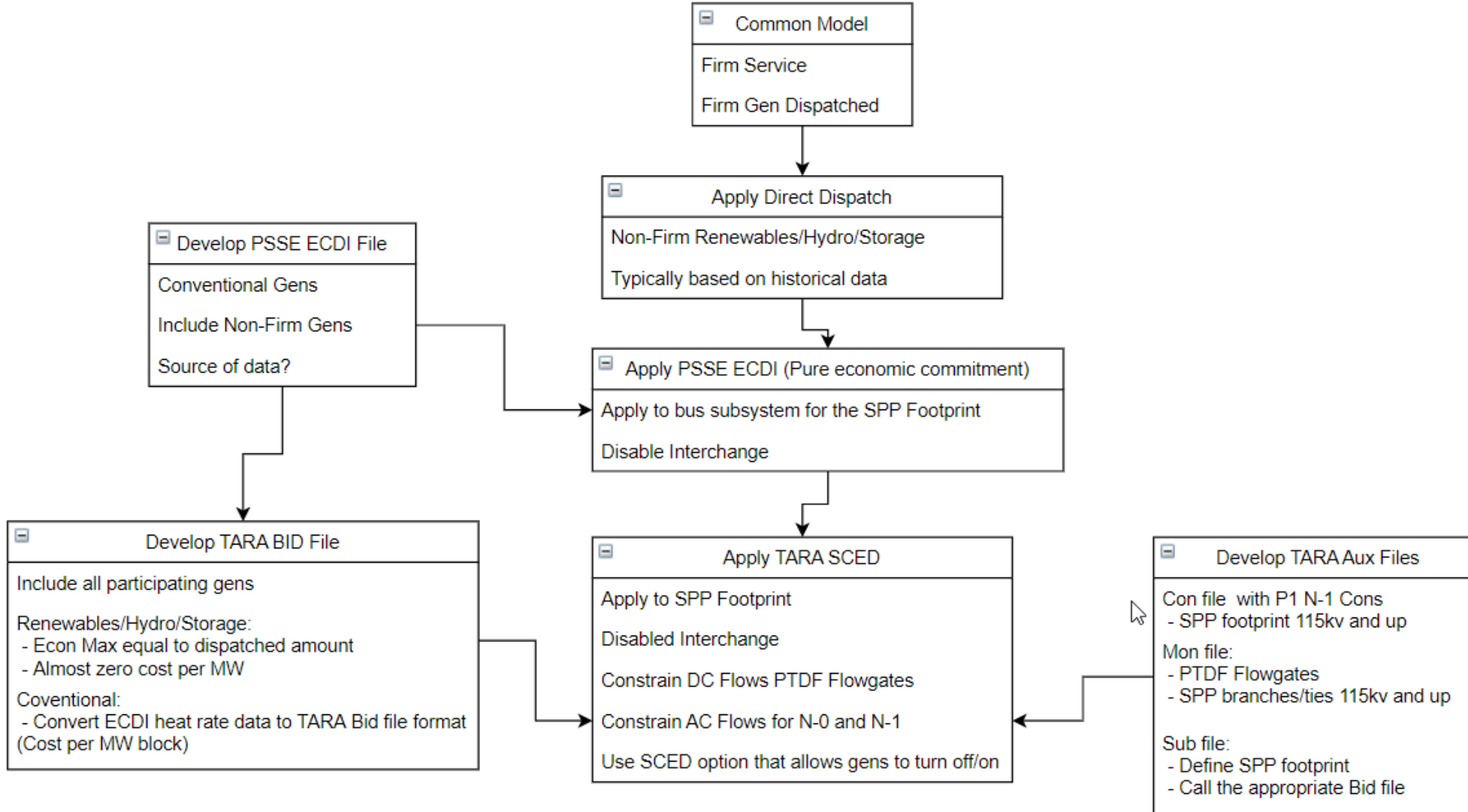
INITIAL DRAFT: CPP COMMON MODEL FLOWCHART (OPTION 1)



INITIAL DRAFT: CPP COMMON MODEL FLOWCHART (OPTION 2)

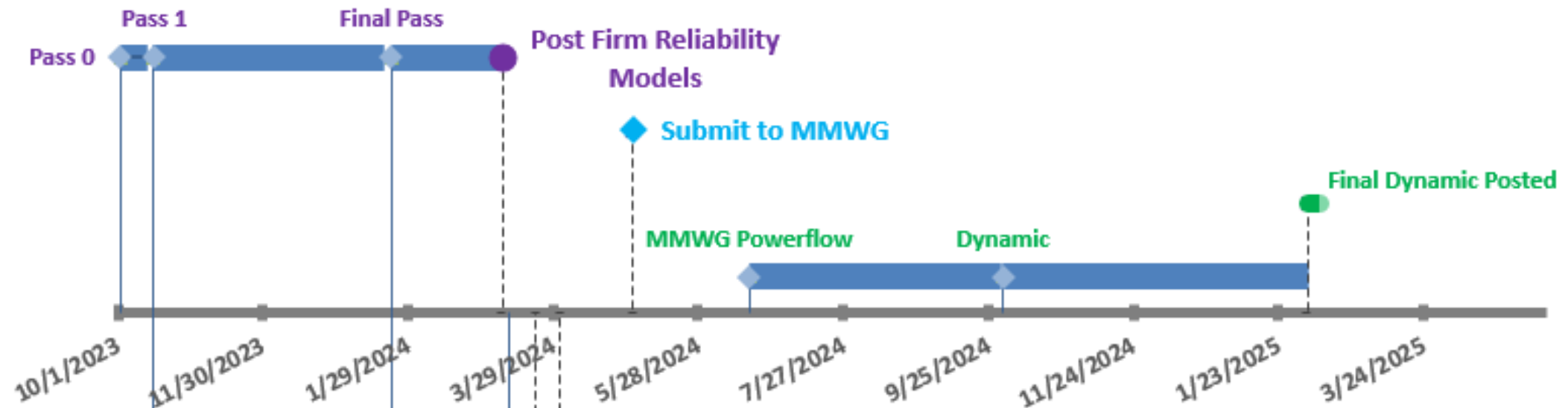


INITIAL DRAFT: ENERGY MODEL DISPATCH



INITIAL DRAFT: CPP MODEL TIMELINE EXAMPLE

Firm Reliability Models



Energy Reliability Models



POTENTIAL MDAG RECOMMENDATIONS:

- Define the CPP Common Model Topology as:

NAME	TOPOLOGY
Common Topology (MOD – Models on Demand)	<ul style="list-style-type: none">• EXISTING EQUIPMENT<ul style="list-style-type: none">➤ CORRECTIONS AND UPDATES• SPP-APPROVED UPGRADES<ul style="list-style-type: none">➤ NTC PROJECTS• TO PLANNED PROJECTS• AQ<ul style="list-style-type: none">➤ Approved load delivery points➤ Associated upgrades or topology changes• GI<ul style="list-style-type: none">➤ GIA or IGIA and not on suspension

POTENTIAL MDAG RECOMMENDATIONS:

- At a minimum, the Common Model Topology set in MOD should include the year/seasons necessary for the next MMWG and also include any additional year/seasons desired for the CPP process.

QA

MDAG MINUTES

October 20, 2022

SOUTHWEST POWER POOL MODEL DEVELOPMENT ADVISORY GROUP MEETING

October 20, 2022 9:00 am – 12:00 pm (CST)

Conference Call

SUMMARY OF MOTIONS AND ACTION ITEMS

Action Items:

- **Action Item: SPP to follow up with CPPTF on how competitive projects would be determined in the common model.**
- **Action Item: SPP to follow up on how legacy dispatch would be in the new proposed GI dispatch**

Motions:

- **Motion: Steve Hohman motioned to approve the presented agenda. Scott Schichtl seconded the motion. The group did not voice concerns during the discussion of the motion. The motion passed unanimously.**
- **Motion: Scott Schichtl motioned to approve September 21, 2022, meeting minutes as presented. Preston Blinsky seconded the motion. The group did not voice concerns during the discussion of the motion.**
- **Motion: Brianna Haug motioned to approve the additional 3 seats. Tyler Baxter seconded the motion. The group did not voice concerns during the discussion of the motion.**
- **Motion: Steve Hohman motioned to approve the RAD Task Force recommendation as written. Ryan Baysinger seconded the motion. The group did not voice concerns during the discussion of the motion.**
- **Motion: Jason Shook motioned to approve the CPP Common Model Topology recommendation table. Steve Hohman seconded the motion. The group did not voice concerns during the discussion of the motion.**
- **Motion: Steve Hohman motioned to approve the CPP Common Model Topology recommendation as written. Jason Shook seconded the motion. The group did not voice concerns during the discussion of the motion.**

MDAG MINUTES

October 20, 2022

Southwest Power Pool MODEL DEVELOPMENT ADVISORY GROUP MEETING

October 20, 2022 9:00 am – 12:00 pm (CST)

Conference Call

MINUTES

AGENDA ITEM 1 – ADMINISTRATIVE ITEMS

AGENDA ITEM 1A & 1B – CALL TO ORDER AND ANTITRUST STATEMENT

SPP MDAG Chair, John Turner, called the meeting to order at 9:02 a.m. (CST) with Quorum. SPP Staff Secretary, Lottie Jones, read the anti-trust statement to the group.

MDAG MINUTES

October 20, 2022

AGENDA ITEM 1C & 1D – ATTENDANCE AND PROXIES

The following members attended or were represented by proxy:

MDAG Member	Present	Proxy	Present	Company
Tyler Baxter	Yes			Corn Belt Power Cooperative
Jerry Bradshaw	No			City Utilities of Springfield
Dustin Betz	Yes			Nebraska Public Power District
Preston Blinsky	Yes			Basin Electric Power Cooperative
Joe Fultz	Yes			Grand River Dam Authority
Brianna Haug	Yes			Western Area Power Administration
Steve Hohman	Yes			Omaha Public Power District
Reené Miranda	No	Mae Cruz	Yes	Southwestern Public Service
Alex Mucha	No			Oklahoma Municipal Power Authority
Scott Rainbolt	No	David Zhong	Yes	American Electric Power
Scott Schichtl	Yes			Arkansas Electric Cooperative Corporation
Jason Shook	Yes			GDS Associates
Liam Stringham	Yes			Sunflower Electric Power Corporation
John Turner	Yes			Western Farmers Electric Power
Lottie Jones	Yes			Southwest Power Pool, Inc., MDAG Secretary
John Vara	Yes			Golden Spread Electric
Ryan Baysinger	Yes			Evergy

Material: OCT20_Attach2- 1c. MDAG Conference Call Attendance-10-20-2022.xlsx

MDAG MINUTES

October 20, 2022

AGENDA ITEM 1E – AGENDA REVIEW (**APPROVAL ITEM**)

John Turner asked the group if they had a chance to review the agenda and if the group had any modifications to the agenda.

Motion: Steve Hohman motioned to approve the presented agenda. Scott Schichtl seconded the motion. The group did not voice concerns during the discussion of the motion. The motion passed unanimously.

Material: OCT20_Attach1- 1e. MDAG Meeting Agenda

AGENDA ITEM 1F – PREVIOUS SEPTEMBER 21, 2022 MEETING MINUTES (**APPROVAL ITEM**)

Lottie Jones asked the group if they had any proposed changes for the previous September 21, 2022, meeting minutes.

The group reviewed the meeting minutes and did not voice any additional changes

Motion: Scott Schichtl motioned to approve September 21, 2022, meeting minutes as presented. Preston Blinsky seconded the motion. The group did not voice concerns during the discussion of the motion.

Material: OCT20_Attach3- 1f. September 21, 2022, Meeting Minutes.docx

MDAG MINUTES

October 20, 2022

AGENDA ITEM 2 – REVIEW OF PAST ACTION ITEMS

Lottie Jones discussed outstanding issues highlighted in red font, including the action items added from the last meeting. Lottie walked the group through updates on action items collected at the previous session and updates for existing in-progress action items.

- Action Item 164 – In-Progress (revisit this topic at a future meeting)
- Action Item 176 – In-Progress (SPP to follow up with MVTF)
- Action Item 177 – Completed (RAD Task Force Recommendation)
- Action Item 182 – Completed (issue is higher level than can be addressed)
- Action Item 184 – Completed (MTF to include in 7.0 version of manual)
- Action Item 193 – Completed (no discussion regarding the issue)
- Action Item 195 – In-Progress (will be discussed MDAG FG meeting today)
- Action Item 196 – Completed (discussed in September MDAG meeting)

AGENDA ITEM 3 – MEMBER SOLICITATION (APPROVAL ITEM)

SPP staff, Lottie Jones, asked for approval from the group to have 3 seats opened up for MDAG as we had 2 seats open previously and an additional member resigned as well.

Motion: Brianna Haug motioned to approve the additional 3 seats. Tyler Baxter seconded the motion. The group did not voice concerns during the discussion of the motion.

AGENDA ITEM 4 – 2022-2023 ROADMAP CYCLE

SPP staff, Kristen Darden, went over the important dates for the 2022-2023 roadmap cycle, encouraging members to register for the opportunity to learn more about the roadmap process. Lottie Jones also sent this email out to email distribution list.

AGENDA ITEM 5 – 2022 SERIES MDAG MODEL BUILD FOR THE 2023 TPL

AGENDA ITEM 5A – DYNAMICS

SPP staff, Zach Sabey, updated the group on the 2022 series MDAG dynamics model build.

AGENDA ITEM 6 – FOCUS GROUP/TASK FORCE UPDATES

MDAG MINUTES

October 20, 2022

AGENDA ITEM 6A – RENEWABLE ASSUMPTIONS DISPATCH TASK FORCE (APPROVAL ITEM)

SPP staff, Lottie Jones, discussed the updated MDAG RAD TF recommendation as well as each part of the recommendation. During discussion of the recommendation, membership revised the recommendation to exclude *RAD TF would like to move the task of creating a methodology for dispatch percentages based on historical or forecast basis for RR493 to the Generation Interconnection Manual Task Force (GIMTF)*, since RAD TF was never asked to create a methodology by TWG. After refining recommendation, MDAG approved the below recommendation.

Recommendation: MDAG would like to approve the completion of TWG task of providing how 5 year average is compiled; and reviewing the DISIS Study Group-specific fuel-based dispatch (for wind) number and comparing it with Operational Data provided by SPP Operations. MDAG RAD TF will give GIMTF the data collected from SPP Operations.

Motion: **Steve Hohman motioned to approve the RAD Task Force recommendation as written. Ryan Baysinger seconded the motion. The group did not voice concerns during the discussion of the motion.**

AGENDA ITEM 6B – MDAG FOCUS GROUP

SPP staff, Becca McCann, gave a verbal update on the last MDAG FG meeting. The group discussed the MDAG RAD TF recommendation as well as the MDAG portion of the CPPTF common model effort and the proposed dispatch of the energy model. Some upcoming topics are the GO area 550 pilot case as well as the continuation of the CPPTF common model work. November meeting is pending poll results at end of today's agenda.

AGENDA ITEM 6C – MANUAL TASK FORCE

SPP staff, Brandon Hentschel, gave a verbal update on the last MTF meeting. No updates were made to the current MDAG manual during the meeting. There was a discussion of that group getting merged with another group (to be discussed later in this meeting).

AGENDA ITEM 7 – CPPTF COMMON MODEL (APPROVAL ITEM)

AGENDA ITEM 7A – COMMON TOPOLOGY RECOMMENDATION

SPP staff, Brandon Hentschel, updated the group on the latest CPPTF common model recommendation for C3.1 sub-recommendation. Including two options of how the new common model workflow and how it integrates into other models like MMWG, a common model timeline, and how the energy model would be dispatched.

MDAG MINUTES

October 20, 2022

During discussion membership asked how CPPTF group would be determining competitive projects in the common model. MDAG membership, CPPTF representative would bring this question to a future CPPTF meeting.

Recommendation 1:

NAME	TOPOLOGY
Common Topology (MOD – Models on Demand)	<ul style="list-style-type: none">• EXISTING EQUIPMENT<ul style="list-style-type: none">➢ CORRECTIONS AND UPDATES• SPP-APPROVED UPGRADES<ul style="list-style-type: none">➢ NTC PROJECTS• TO PLANNED PROJECTS• AQ<ul style="list-style-type: none">➢ Approved load delivery points➢ Associated upgrades or topology changes• GI<ul style="list-style-type: none">➢ GIA or IGIA and not on suspension

Recommendation 2: At a minimum, the Common Model Topology set in MOD should include the year/seasons necessary for the next MMWG and also include any additional year/seasons desired for the CPP process.

Motion: Jason Shook motioned to approve the CPP Common Model Topology recommendation table. Steve Hohman seconded the motion. The group did not voice concerns during the discussion of the motion.

Motion: Steve Hohman motioned to approve the CPP Common Model Topology recommendation as written. Jason Shook seconded the motion. The group did not voice concerns during the discussion of the motion.

AGENDA ITEM 8 – 2023 SERIES MDAG MODEL BUILD/APPLICATION UPDATES

AGENDA ITEM 8A – POWERFLOW

AGENDA ITEM 8AI – MMWG POWERFLOW UPDATE

SPP staff, Lottie Jones, updated the group on the current MDAG powerflow model build schedule. Staff has built and solved models, and are currently QAing models to post on time, October 28th. Pre-final MMWG models were approved, and final MMWG models are still pending.

AGENDA ITEM 8B – SHORT CIRCUIT

MDAG MINUTES

October 20, 2022

SPP staff, Eric Sullivan, updated the group on the current short circuit model build schedule. Staff is currently reviewing member updates, and future task include updating GMD data with comments.

AGENDA ITEM 8C – MOD-033

SPP staff, Eric Sullivan, updated the group on the current MOD-033-2 East study schedule. Notifying the group that January 2023 member updates are due to SPP.

AGENDA ITEM 8D – DYNAMICS

SPP staff, Zach Sabey, updated the group on the current dynamic model build notifying everyone that it has not yet started and there is no update.

AGENDA ITEM 9 – MDAG CONSOLIDATION PROPOSAL

John Turner is proposing to consolidate the MDAG Focus Group and Manual Task Force into a single group, presenting what will change and what will remain the same. Although this is not an approval item, it will be voted on at the next MDAG meeting in November.

Lottie asked the group if they would be in favor of this change. The group did not voice any concerns in combining the groups.

Brianna Haug asked the group if this would cause a time-constraint combining both groups into one discussion. John Turner and Brandon Hentschel commented that these topics could be brought to a future meeting or discussed in an additional supplemental meeting, and additional meetings could be added if a discussion required more time.

AGENDA ITEM 10 – SUMMARY OF ACTION ITEMS

Lottie discussed the action items from this meeting:

- **Action Item: SPP to follow up with CPPTF on how competitive projects would be determined in the common model.**
- **Action Item: SPP to follow up on how legacy dispatch would be in the new proposed GI dispatch**

AGENDA ITEM 11 – DISCUSSION OF FUTURE MEETINGS

- MDAG: November 17, 2022 (9:00 AM – 12:00 PM)
- MDAG Focus Group: No Meeting

MDAG MINUTES

October 20, 2022

- October in meeting poll decided that MDAG FG would NOT meet in November.

AGENDA ITEM 13 – ADJOURN

John Turner adjourned the meeting at 11:07 a.m. (CST).

Respectfully Submitted,

Lottie Jones
Secretary

Attachments

OCT20_Attach1- 1e. MDAG Meeting Agenda.docx

OCT20_Attach2- 1c. MDAG Conference Call Attendance-10-20-2022.xlsx

OCT20_Attach3- 1f. September 21, 2022, Meeting Minutes.docx

OCT20_Attach4- 3. MDAG System Reduction.pptx

OCT20_Attach5- 4. MDAG Scope Review.pdf