SOUTHWEST POWER POOL
ECONOMIC STUDIES WORKING GROUP MEETING

February 2-3, 2022
Net Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

- Approved January 4-5, 2022 Meeting **Minutes**
- Approved **RR 485** – Renewable Pricing
- Approved **20YA Siting Plan Scope Items**

SOUTHWEST POWER POOL
ECONOMIC STUDIES WORKING GROUP MEETING
February 2-3, 2022
Net Conference

MINUTES

AGENDA ITEM 1 – ADMINISTRATIVE ITEMS

Economic Studies Working Group (ESWG) Chair Alan Myers called the meeting to order at 8:00 a.m. The following members were in attendance or represented by proxy:

Al Tamimi, SUNC
Alan Myers, ITC
Anita Sharma, AEP
Calvin Daniels, WFEC
Derek Brown, Evergy
Gayle Nansel, WAPA
Jeremy Severson, BEPC
Jody Holland, GHP
Jordan Schmick, SPS
Kurt Stradley, LES
Kyle McKinney, GSEC
Michael Watt, OMPA
Randy Collier, CUS
Steve Gaw, APA
Steve Hohman, OPPD
Tim Owens, NPPD
Zac Hager, OGE

(Attachment 1 – Attendance) (Attachment 2 – Proxy)

Joshua Norton confirmed there was a quorum and provided the antitrust statement. Alan Myers reviewed the agenda for any changes. (Attachment 3 – Agenda)

> **Tim Owens made a motion, seconded by Steve Gaw to approve the agenda. The motion was approved unanimously.**

AGENDA ITEM 2 – CONSENT AGENDA

The consent agenda included the following items:

- Meeting Minutes – January 4-5, 2021 (Attachment 4 – January 4-5, 2021 ESWG Minutes)
- RR 485 – Renewable Pricing (Attachment 5 – RR 485: Renewable Pricing)
- 20YA Siting Plan Scope Items (Attachment 6 – 20YA Siting Plan Scope Items)

The consent agenda was approved unanimously.

AGENDA ITEM 3 – REVIEW OF ACTION ITEMS

Joshua Norton reviewed past action items. (Attachment 7 – Action Items)

AGENDA ITEM 4 – COMPREHENSIVE ROADMAP PRIORITIZATION

Erin Cathey presented information on comprehensive roadmap prioritization. She mentioned that a joint meeting of TWG, ESWG, and MDWG may be needed soon for this initiative. (Attachment 8 – Comprehensive Roadmap Planning Prioritization)

AGENDA ITEM 5 – 2021 ITP FURTHER EVALUATION

Chris Davis presented information on the 2021 ITP further evaluation of the Crossroads-Phantom double circuit 345 kV project. Staff stated that no new needs would be listed and no new solutions would be requested for this further evaluation. (Attachment 9 – 2021 ITP Further Evaluation)

AGENDA ITEM 6 – ITP REBASELINE

Chris Davis presented information on the ITP rebaseline effort. He presented draft timelines and next steps. (Attachment 10 – ITP Rebaseline)

AGENDA ITEM 7A – 20-YEAR ASSESSMENT: SCOPE AND STUDY ECECUTION ACTION ITEMS

Sherri Maxey reviewed the list of 20YA action items, noting a few were on the agenda. (Attachment 11 – 20YA Scope Items)

AGENDA ITEM 8A – 2022 ITP: SPS 10.3 TRANSFORMERS REQUEST

Sunny Raheem presented the SPS 10.3 transformers request for information to the group. The Artesia and Roswell transformers changes are proposed changes from SPS for inclusion into the 2022 ITP Base Reliability models. Staff identified minimal impacts on the 2022 ITP models and schedules. The changes align with 2021 ITP portfolio decisions around Artesia and Roswell transformer. Basin Electric mentioned a potential Section 10.3 change to the 2022 ITP BR models due to more recent load addition and seams generation retirement activities since the model development's original deadline. (Attachment 12 – 2022 ITP 10.3 SPS Transformers Request)

AGENDA ITEM 9A– 2023 ITP: RENEWABLE POLICY REVIEW

Krishada Watson presented an overview of the upcoming milestone. (Attachment 13 – Renewable Policy Review)

AGENDA ITEM 9B – 2023 ITP: RESOURCE PLAN PHASE 1

Krishada Watson presented an overview of the milestone and asked for feedback from the group. (Attachment 14 – Resource Plan Phase I)

AGENDA ITEM 10 – CLOSING ITEMS

There were no action items taken.

AGENDA ITEM 11 – INORMATIONAL ITEMS

The ITP schedules were not able to be posted for information as they are still being reworked due to the recent MOPC approvals.

EMAIL ITEMS

There were no email items since the prior meeting.

Respectfully Submitted,

Joshua Norton

Secretary

Name	Company/Email	Attendance
Adam Bell (SPP)	abell@spp.org	Webex
Ahmed Alazzawi	aalazzawi@spp.org	Webex
Al Tamimi	atamimi@sunflower.net	Webex
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Antonio Barber	abarber@spp.org	Webex
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Charlton Hill	chill@spp.org	Webex
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Sunny Raheem	sraheem@spp.org	Webex
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Tim Owens	tjowens@nppd.com	Webex
Tyler Baxter	tyler.baxter@cbpower.coop	Webex
Zac Hager	hagerzc@oge.com	Webex

Proxy	Member	Note
Jim Jacoby	Anita Sharma	Day 1
Brian Johnson	Anita Sharma	Day 2
Chris Colson	Gayle Nansel	Day 1
Moses Rotich	Jody Holland	

Hello Josh,

I will be in and out of the ESWG meeting tomorrow so Jim Jacoby has my proxy for Feb 2nd. I am unable to attend the following day and give my proxy to Brian Johnson for Thu, Feb 3.

Thank you!

Josh:

Please give my proxy to Chris Colson for today's portion of the call.

Sorry for the late notice.

Gayle R. Nansel | VP of Operations for UGPR

Alan and Josh,

Please accept Moses as my proxy for the 2/2-3 ESWG meeting. Thanks.

Jody Holland

GridLiance | NextEra Energy Transmission

Executive Director, Transmission Planning

SOUTHWEST POWER POOL, INC.
ECONOMIC STUDIES WORKING GROUP MEETING
February 2-3, 2022
Net Conference

AGENDA

Wednesday, 8:00a.m – 12:00p.m.
Thursday, 8:00a.m – 12:00p.m.

1. Administrative Items ..... Alan Myers 15
   - A. Call to Order, Introductions ..... Alan Myers
   - B. Receipt of Proxies ..... Joshua Norton
   - C. Review of Agenda[1] ..... Alan Myers
   - D. Antitrust Reminder ..... Joshua Norton
2. Consent Agenda[1]
   - A. January 4-5, 2022 ESWG minutes
   - B. RR 485 – ITP Renewable Pricing
   - C. 20YA Siting Plan Scope Items
3. Review of Action Items[1] ..... Joshua Norton 10
4. Comprehensive Roadmap Prioritization[1] ..... Erin Cathey 25
5. 2021 ITP Further Evaluation[1] ..... Chris Davis 30
6. ITP Rebaseline[1] ..... Chris Davis 30
7. 20-Year Assessment (20YA)
   - A. Scope and Study Execution Action Items[1] ..... Sherri Maxey 30
8. 2022 ITP

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[1] Background Material Included

A. SPS 10.3 Transformers Request[1] ..... Sunny Raheem 15

9. 2023 ITP

A. Renewable Policy Review ..... Krishada Watson 15

B. Resource Plan Phase 1 ..... Krishada Watson 15

10. Closing Items ..... All 10

A. Summary of Action Items

B. Upcoming Meeting Agenda Items

C. Future Meetings

i) March 2-3 – Net Conference

ii) March 30-31 – Net Conference

11. Informational Items[1]

A. 2022 ITP Schedule
B. 20-Year Assessment Schedule
C. 2023 ITP Schedule

SOUTHWEST POWER POOL
ECONOMIC STUDIES WORKING GROUP MEETING

January 4-5, 2022
Net Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

- Approved December 2021 ESWG meeting **minutes**

- Endorsed the **2021 ITP Report**, as revised during the 1-4-2022 meeting, as final documentation of the 2021 ITP assessment, contingent on the SPP Board of Directors' final approval of the 2021 ITP NTCs
  Subject to:
  - Review of scenario need dates in table 7.1
  - Review of cost estimate for Ogallala (Tri State)-Ogallala (NPPD) 115 kV rebuild bus tie
  - Addition of staff and TWG/ESWG recommendations on Crossroads-Phantom 345 kV line in the executive summary and table

- **ITP Rebaseline** - approved **option 2** to perform a **reliability-only 2022 ITP and full assessments for 2023 ITP and 2024 ITP**, with request that staff brings back fully developed plan of study completion

SOUTHWEST POWER POOL
ECONOMIC STUDIES WORKING GROUP MEETING
January 4-5, 2022
Net Conference

MINUTES

AGENDA ITEM 1 – ADMINISTRATIVE ITEMS

Economic Studies Working Group (ESWG) Chair Alan Myers called the meeting to order at 9:00 a.m. The following members were in attendance or represented by proxy:

Al Tamimi, SUNC
Alan Myers, ITC
Anita Sharma, AEP
Calvin Daniels, WFEC
Derek Brown, Evergy
Gayle Nansel, WAPA
Jeremy Severson, BEPC
Jody Holland, GHP
Kurt Stradley, LES
Kyle McKinney, GSEC
Michael Watt, OMPA
Randy Collier, CUS
Steve Gaw, APA
Steve Hohman, OPPD
Tim Owens, NPPD
Zac Hager, OGE

Proxies:
See Attachment 2

(Attachment 1 – Attendance) (Attachment 2 – Proxy)

Joshua Norton confirmed there was a quorum and provided the antitrust statement. Alan Myers reviewed the agenda for any changes. (Attachment 3 – Agenda)

> **Kurt Stradley made a motion, seconded by Steve Hohman, to approve the agenda. The motion was approved unanimously.**

AGENDA ITEM 2 – 2021 ITP REPORT

This item was discussed in joint session with TWG.

Chris Davis presented the 2021 ITP Report Review slide deck and responded to comments and questions from the group. (Attachment 4 – 2021 ITP Report) (Attachment 5 – 2021 ITP Report and Approvals presentation)

Steve Hohman made a motion, seconded by Calvin Daniels, for ESWG to endorse the 2021 ITP Report, as revised during the 1-4-2022 meeting, as final documentation of the 2021 ITP assessment, contingent on the SPP Board of Directors' final approval of the 2021 ITP NTCs

Subject to:

- **Review of scenario need dates in table 7.1**
- **Review of cost estimate for Ogallala (Tri State)-Ogallala (NPPD) 115 kV rebuild bus tie**
- **Addition of staff and TWG/ESWG recommendations on Crossroads-Phantom 345 kV line in the executive summary and table**

The motion was approved with three abstentions (Anita Sharma, Jody Holland, and Al Tamimi).

Voting Rationale:

Jody Holland: Abstention
My abstention today for the ITP report recommendation is due to the uncertainty of the recommendations surrounding the Crossroads project.

Steve Hohman: For
OPPD was not in favor of the 2021 ITP Report recommendation as originally presented, nor was it in favor of the ITP Report as originally posted. This was due to the Report documenting the issuance of NTC's for the SPS target area projects in question. The explanation from Staff during the joint meeting was helpful to explain Staff's perspective that the study was indeed performed and the study indeed concluded that NTC's were recommended for the SPS target area projects, including Phantom-Crossroads. OPPD was extremely concerned that approving the Report in this form would give MOPC and Board and the public, when the report was posted, a false sense of working group confidence in those target area projects. TWG and ESWG both voted to exclude those

target area projects due in part to questions of confidence. OPPD voted to approve the motion that was ultimately made, which acknowledges the uncertainty of those projects and requires documentation of the actions taken by both the TWG and ESWG.

AGENDA ITEM 3 – ITP REBASELINE

This item was discussed in joint session with TWG.

Nick Parker presented the ITP Rebaseline. He covered three options with option 2 being recommended by staff. (Attachment 6 – ITP Rebaseline Proposal)

Jody Holland made the motion, seconded by Zac Hager, to approve option 2 to perform a reliability-only 2022 ITP and full assessments for 2023 ITP and 2024 ITP, with request that staff brings back fully developed plan of study completion. The motion was approved with one abstention (Steve Gaw).

Voting Rationale:

Tim Owens: For
I reluctantly voted in support of the motion to move forward with option 2, as presented by SPP staff. I have some significant concerns about how eliminating the economic analysis from the 2022 ITP will impact the execution and ultimate usefulness of the 20-year assessment, as well as the many other details (e.g., waivers & scope updates) the still need to be developed to implement this plan. However, as discussed during the meeting, it appears option 2 provides the best opportunity to continue to address TPL-001 reliability requirements within the ITP assessment process over the next several years, which I believe is an overriding consideration.

Jeremy Severson: For
BEPC voted to approve staff's recommendation of Option 2 for the ITP Rebaseline. BEPC feels that by forgoing the economic analysis in the 2022 ITP study, SPP will be able to catch back up in the study process, delayed Covid, the 2021 winter event, and staff shortages. Several entities have brought up concerns over the work that has already been put forth in the 2022 economic model build, however SPP staff has stated that this work won't be lost and can be used in the 2023 economic model build. Option 2 is also the only option that keeps the TPL analysis compliant in all 3 years (2022, 2023, and 2024) without having to do a separate analysis. The time spent on finishing up the 2022 economic analysis would delay the completion of the 2022 ITP into 2023. If there is any type of economic project that is viable, it would be seem prudent that the 2023 ITP study effort would capture that need and issue a mitigation in a similar timeframe.

AGENDA ITEM 4 – VALUE OF TRANSMISSION STUDY

This item was scheduled to be discussed in joint session with TWG, but was ultimately handled separately due to joint session time constraint.

Chris Davis presented the Value of Transmission slide deck and responded to comments and questions from the group. (Attachment 7 – Value of Transmission study)

AGENDA ITEM 5 – CONSENT AGENDA

The consent agenda included the following items:

Meeting Minutes – December 8-9, 2021 (Attachment 8 – ESWG Minutes 2021-12-08)

The Consent agenda was approved unanimously.

AGENDA ITEM 6 – REVIEW OF ACTION ITEMS

Joshua Norton reviewed past action items. (Attachment 9 – Action Items)

AGENDA ITEM 7A – 2022 ITP: MEM BENCHMARKING

Charlton Hill presented the MEM Build and MEM Benchmarking presentation for the 2022 ITP. He covered current work and next steps which included an email vote for the MEM Benchmarking Pass 2, incorporating Resource Expansion Plan, and continuing to build remaining MEMs. (Attachment 10 – 2022 ITP MEM Build Update)

AGENDA ITEM 7B – 2022 ITP: WIND CURTALIMENT PRICES

Joshua Norton presented the Wind Curtailment presentation for the 2022 ITP. He covered current work and next steps which included 2022 ITP MEM QA and approval that will capture renewable pricing implementation as presented. (Attachment 11 – Wind Curtailment Prices)

AGENDA ITEM 8A – 2022 20YA: SCOPE AND STUDY EXECTUTION ACTION ITEMS UPDATE

Sherri Maxey presented the Scope and Study Execution Action Items and responded to comments and questions from the group. (Attachment 12 – Scope and Study Execution Action Items)

AGENDA ITEM 8B – 2022 20YA: SITING PLAN ACTION ITEMS

Joshua Norton presented the Siting Plan Action Items and responded to comments and questions from the group. (Attachment 13 – Siting Plan Action Items)

AGENDA ITEM 9 – ORGANIZATIONAL GROUP EFFECTIVENESS SURVEY

Joshua Norton presented the 2021 ESWG Organizational Group Effectiveness Survey and the group discussed the results. (Attachment 14 – 2021 ESWG Organizational Group Effectiveness Survey)

AGENDA ITEM 10 – CLOSING ITEMS

There were no action items taken.

AGENDA ITEM 11 – INFORMATIONAL ITEMS

The following items were posted for information only:

A. 2022 ITP and 20-Year Assessment Schedules (Attachment 15 – 2022 ITP and 20-Year Assessment Schedules January 2022)

B. 2023 ITP Schedule (Attachment 16 – 2023 ITP Schedule January 2022)

EMAIL ITEMS

There were no email items since the latest meeting.

Respectfully Submitted,

Joshua Norton

Secretary

Revision Request Form

SPP STAFF TO COMPLETE THIS SECTION

RR #: 485	**Date: 1/7/2022**

RR Title: ITP Manual - Renewable Pricing

System Changes ☒ No ☐ Yes

Process Changes? ☒ No ☐ Yes

Impact Analysis Required? ☒ No ☐ Yes | **If no, but system or process changes are expected please explain why an Impact Analysis will not be performed** (e.g. FERC Order, work included in another Impact Analysis for a related RR):

SUBMITTER INFORMATION

Name: Brooke Keene	**Company:** SPP
Email: bkeene@spp.org	**Phone:** 501-482-2081

Only Qualified Entities may submit Revision Requests.
Please select at least one applicable option below, as it applies to the named submitter(s).

☒ **SPP Staff** ☐ **SPP Market Participant** ☐ **SPP Member** ☐ **An entity designated by a Qualified Entity to submit a Revision Request "on their behalf"**	☐ **SPP Market Monitor** ☐ **Staff of government authority with jurisdiction over SPP/SPP member** ☐ **Rostered individual of SPP Committee, Task Force or Working Group** ☐ **Transmission Customers or other entities that are parties to transactions under the Tariff**

REVISION REQUEST DETAILS

Requested Resolution Timing: ☒ **Normal** ☐ **Expedited** ☐ **Urgent Action**

Reason for Expedited/Urgent Resolution:

Type of Revision (select all that apply):

☐ Correction *(i.e., revising erroneous language or language that needs clean-up for grammatical errors or inconsistency across governing documents - no changes to intent or policy)*

☒ Clarification *(i.e., revising language to better represent existing intent, no changes to functionality or policy)*

☐ Enhancement *(i.e., revising language to expand upon existing intent or functionality)*

☐ New Protocol, Business Practice, Criteria, Tariff *(i.e, new language to accommodate new functionality or policy not existing today)*

☐ NERC Standard Impact *(Specifically state if revision relates to/or impacts NERC Standards, list standard(s))*

☐ FERC Mandate *(List order number(s))*

REVISION REQUEST RISK DRIVERS

Are there existing risks to one or more SPP Members or the BES driving the need for this RR? ☐ Yes ☒ No

If yes, provided details to explain the risk and timelines associated:

☐ Compliance (Tariff, NERC, Other)

☐ Reliability/Operations

☐ Financial

SPP Documents Requiring Revision: *Please select your primary intended document(s) as well as all others known that could be impacted by the requested revision (e.g. a change to a protocol that would necessitate a criteria or business practice revision).*		
☐ **Market Protocols**	**Section(s):**	**Protocol Version:**
☐ **Operating Criteria**	**Section(s):**	**Criteria Date:**
☐ **Planning Criteria**	**Section(s):**	**Criteria Date:**
☐ **Tariff (OATT)**	**Section(s):**	
☐ **Business Practice**	**Business Practice Number:**	
☒ **Integrated Transmission Planning (ITP) Manual**	**Section(s): 2.2.1.10**	
☐ **Revision Request Process**	**Section(s):**	
☐ **Minimum Transmission Design Standards for Competitive Upgrades (MTDS)**	**Section(s):**	
☐ **Reliability Coordinator and Balancing Authority Data Specifications (RDS)**	**Section(s):**	
☐ **SPP Communications Protocols**	**Section(s):**	

OBJECTIVE OF REVISION

Objectives of Revision Request:
Describe the problem/issue this revision request will resolve.

When the current ITP Manual language was written, all wind units received the entire production tax credit (PTC) as long as construction began prior to a specific date.The IRS now defines the percentage of the PTC a wind unit will receive based on the construction start date. In our ITP market models, we adjust our curtailment prices based on PTC allocation. The current language states that a wind unit will receive no curtailment price adjustment if the unit has not began construction prior to January 1, 2020 which contradicts the updated IRS policy that further extends PTCs.

Additionally, this modification allows for PTCs to be awarded to solar facilities, rather than only wind, in accordinance with IRS specifications.

Describe the benefits that will be realized from this revision.

This revision will make the ITP manual consistent with current IRS allocations.

REVISIONS TO SPP DOCUMENTS

In the appropriate sections below, please provide the language from the current document(s) for which you are requesting revision(s), with all edits redlined.

Integrated Transmission Planning (ITP) Manual

2.2.1.10 Renewable Pricing

The economic modeling of wind and solar resources include two primary parameters that impact pricing: curtailment price and VOM.

Wind and solar resources include an hourly profile. The curtailment price for wind and solar is the price at which the resource will curtail. If the LMP at the generation bus is greater than or equal to the curtailment price, the unit will generate energy in accordance with the hourly profile. If the locational marginal price (LMP) at the generation bus is less than the curtailment price, the unit generation will be curtailed. As a result, the curtailment prices impact the dispatch of wind and solar units in the economic models but do not impact the operating cost of the units.

To model a curtailment price reflective of market operation for wind and solar units, current IRS legislation will be utilized to account for ~~units that will reflect market operation, including~~ projected production tax credit (PTC) impacts. ~~, the following criteria will be used for wind curtailment price modeling:~~

- ~~Both existing and projected wind units will have $0/MWh curtailment price if any of the following are true[1]:~~
  - ~~The unit is placed or assumed to be placed in service at least 10 years prior to the study year[2].~~
  - ~~Construction on the unit has not or is assumed to not have started prior to January 1, 2020.~~
  - ~~An entity associated with the unit has provided feedback that the investment tax credit (ITC), rather than PTC, is applicable.~~

~~Otherwise, b~~Both existing and projected wind and solar units will have a negative curtailment price[3] that reflects the "grossed-up" value of a PTC[4] ~~and accounts for the PTC "phase out"~~ in accordance with applicable laws and regulations. Investment tax credits (ITC) will not be considered in the adjustment of curtailment prices unless defined in the ITP Scope. If no PTC nor ITC is applicable, existing and projected units will have a $0/MWh curtailment price.

For the purposes of applying the above ~~wind~~ curtailment price modeling criteria to additional wind and solar amounts determined by the Renewable Resource Expansion Plan, SPP and the ESWG will estimate the additional wind and solar amounts per year and use information from the Resource Siting Plan to determine ~~the assumed construction and in service dates~~ appropriate curtailment price methodology for additional ~~wind~~ units.[5]

If any significant changes to the PTC rules occur during an ITP assessment, SPP staff or stakeholders can bring information to the ESWG for review and potential approval for use in the ITP assessment. Any resulting deviations from this standard curtailment pricing will be noted in the study report.

~~To model a curtailment price for utility-scale solar units that will reflect market operation, the curtailment price will be set at $0/MWh[6].~~

The VOM for wind and solar resources defines the unit operating cost per MWh of energy generated. This operating cost is included in production cost calculations. The VOM parameter does not impact dispatch, curtailment, or LMPs in the economic model simulations.

For all wind and solar units, the VOM shall be $0/MWh to reflect the low operating cost of renewable resources.

~~[1] Reflecting that the PTC is not a factor in its operation~~

~~[2] For purposes of this provision, a unit that has been qualified for the PTC as a repowered unit shall be deemed placed in service at the time it is in service after repowering.~~

[3] The negative curtailment price will be adjusted for inflation to the study year using a typically assumed inflation rate for the study.

[4] Reflecting a IRS published PTC value and federal corporate income tax rate at the commencement of the study where the "grossed-up" PTC value = PTC/(1-corporate tax rate)

[5] For example, approximate projected wind amounts per year can be determined from existing wind amounts and projected wind amounts by linear interpolation or other means and wind site rankings from the Resource Siting Plan can be used by assuming highest rank sites receive earlier in-service dates.

~~[6] Distributed Sor will have an appropriate negative curtailment price to limit distributed solar curtailments.~~

20YA – SITING PLAN SCOPE ACTION ITEMS

SITING PLAN SCOPE ACTION ITEMS

ID	Description	Milestone(s)	Status Update (from December)
11	Determine resource addition strategy	Siting / Generator Outlet Facilities (GOFs) / Constraint Assessment	*In progress – goal is now Jan. ESWG*
12	EPRI transmission capacity hosting tool/SPP initiative for siting	Siting / GOFs / Constraint Assessment	*In progress – goal is now Jan. ESWG*
14	Hybrid Solar/Renewable and Battery Modeling and GI Surplus Capacity	Siting / MEM	*In progress – goal is now Jan. ESWG*

Q&A FROM JANUARY DISCUSSION

- Q: Can the capacity factors (CF) be posted for the site repository?
  - A: Yes, the CFs can be included in the next posting of the site repository as well as the 20YA site repository
- Q: Can the ranking criteria data be posted?
  - A: Yes, the ranking criteria results can be included in the next posting of the site repository and the 20YA site repository

Q&A FROM JANUARY DISCUSSION (CONT)

- Q: Can the 20YA site source be included to be clear where it is coming from?
  - A: Yes, the source of the site can be posted in the 20YA site repository
- Q: Are the 20YA batteries 4 hour or should longer duration batteries be considered?
  - A: The appropriate duration for batteries will be analyzed in the resource plan development milestone and presented to the ESWG.

11 - DETERMINE RESOURCE ADDITION STRATEGY

- 2022 ITP sites as the 10-year plan
- remaining wind/solar sites added to the highest 10-20% capacity factor (CF)*FCITC potential sites in footprint
- Site repository expanded to include retiring conventional sites for wind/solar placement

12 - EPRI TRANSMISSION CAPACITY HOSTING TOOL/SPP INITIATIVE FOR SITING

- For the 20YA we will continue current FCITC process used in ITP assessments
- If schedule allows we will test the EPRI tool and benchmark against the FCITC process

14 - HYBRID SOLAR/RENEWABLE AND BATTERY MODELING AND GI SURPLUS CAPACITY

- Where applicable we will use PROMOD 11.4 hybrid modeling capabilities
- Surplus capacity utilization will be increasingly an area of focus in the 10-year ITP assessments, but not in this 20-year

RECOMMENDATION

SPP staff recommends the ESWG approve the methodologies lined out in this presentation for Scope action items 11, 12, and 14.

NEXT STEPS

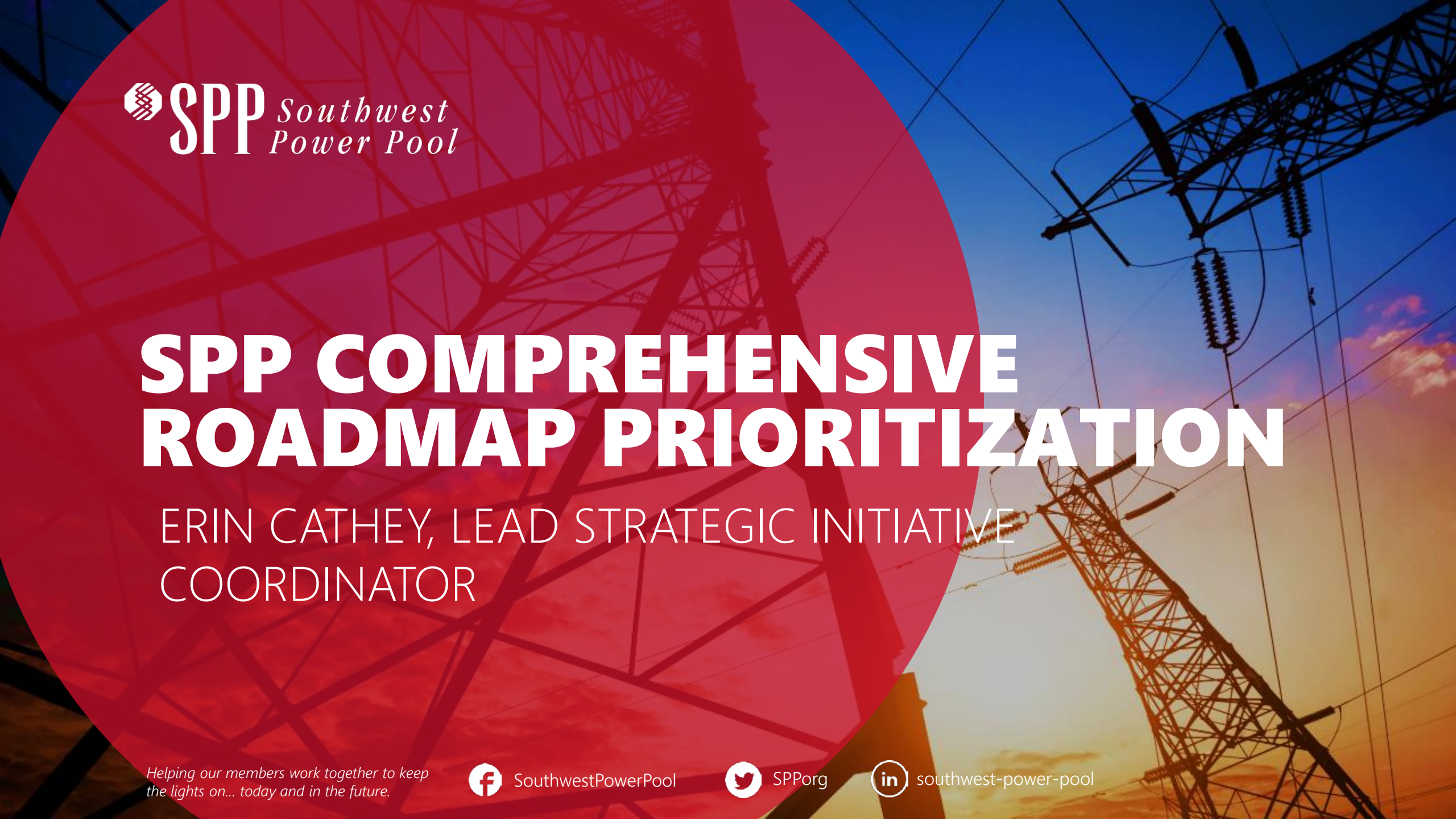
- ESWG review of 20-Year Assessment siting plan

SOUTHWEST POWER POOL, INC.
ECONOMIC STUDIES WORKING GROUP

Action Items Status Report
February 2-3, 2022

	Action Item	Date Originated	Status	Comments
190	Utilize the results from RCAR III to determine the ratio of APC benefit to Transmission Outages benefit to be applied in the ITP assessments.	10/12/17	On Hold	Working with SPP operations on additional APC benefit with outages included. Mar: Ops is planning to perform after RCAR III and Value of Transmission study. Sept 29: Estimated start date is 2022 Q2
201	Review the interchange methodology	07/01/19	On hold	Goal: To complete for the 2021 ITP Assessment Mar 2021: 2021 portion considered complete. Outstanding long-term items: • Transactions between simulated and non-simulated regions • Benchmarking of pseudo-ties **Feb:** This item is included in the Planning Roadmap for prioritization
210	Create list of 20YA items to review	01/07/21	In Progress	June: Continue review of list and discussion of items Jan: Several items on the agenda for discussion **Feb:** Several items on the agenda for discussion
211	Revisit the SPP Other bucket and how we use those resources in Resource Plan Phase II Accreditation	05/19/21	On hold	July: Review process in upcoming meeting Sept 29: Resource Accreditation is being discussed as part of 2023 ITP Scope.

				Feb: To be discussed as part of 2024 ITP Scope development ~June 2022
212	Review ELCC Accreditation	11/03/21	On hold	**Feb:** To be discussed as part of 2024 ITP Scope development ~June 2022
213	Discuss incorporation of Utility Integrated Resource Plans in the ITP	11/03/21	On hold	**Feb:** To be discussed as part of 2024 ITP Scope development ~June 2022
214	Review the retirement exception process	11/03/21	On hold	**Feb:** To be discussed as part of 2024 ITP Scope development ~June 2022
215	Review the RAR process	11/03/21	On hold	**Feb:** To be discussed as part of 2024 ITP Scope development ~June 2022



SPP Southwest Power Pool

SPP COMPREHENSIVE ROADMAP PRIORITIZATION

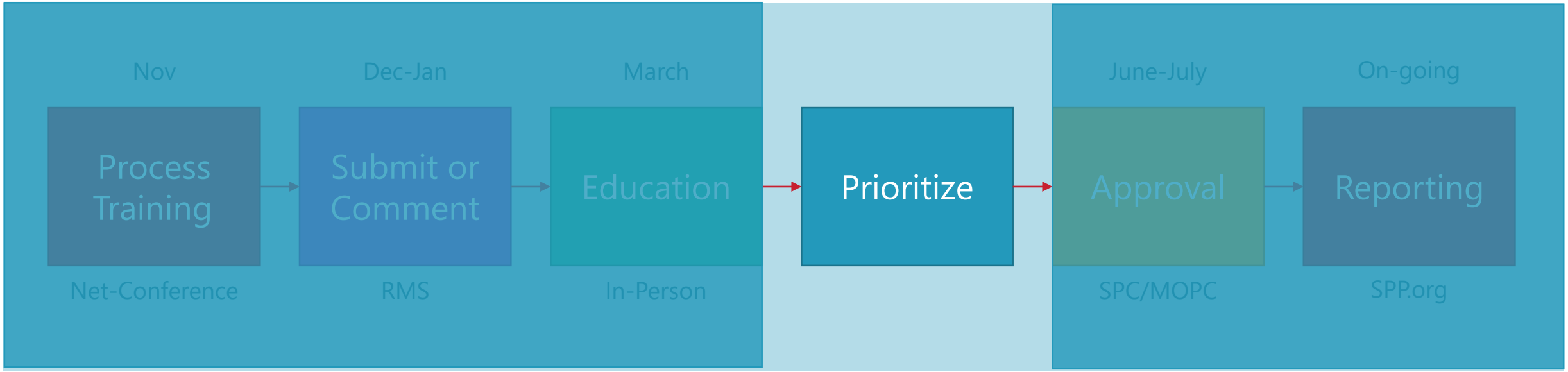
ERIN CATHEY, LEAD STRATEGIC INITIATIVE COORDINATOR

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

SouthwestPowerPool SPPorg southwest-power-pool

2022 Roadmap Development Remaining Activities

- **Prioritize Initiatives**
  - Informed decisions based on education
  - Collective functional area prioritization based on individual responses
  - SPP & MMU informational prioritization
  - Strategic & transparent prioritization process, not a 'black box' approach



- Prioritization of "what"
  - High, Medium, Parking Lot, Reject
- Stakeholders, SPP, and SPP MMU will participate in results review
- Online (via email) Excel prioritization tool
- Subjective and programmatic prioritization – 4 tier methodology
  - Qualification Criteria check point
  - Strategic and transparent
- Certain items may necessitate a "fixed" priority
  - FERC Order
  - NERC Standard
  - BOD directive
- Initiatives near completion are not re-ranked, rank rolls forward
  - Within 18 months from MOPC approval

Prioritize

INITIATIVE PRIORITIZATION

Indicate importance or relevance, qualitative

1) Subjective

Indicate numerical order of importance, 1 – total number of initiatives

2) Numerical Order

Weighted prioritization, indicate priority by applying higher points to more important initiatives

3) Point Pool Weighted

Final prioritization combines results from the numerical order and weighted prioritization

4) Combined Weighted

Prioritize

SUBJECTIVE PRIORITIZATION

- Agree or Disagree individual initiatives qualify for inclusion
- Qualification Criteria
  - If one or more of these criteria are met, the initiative should be included in the Roadmap Process
    - New governing document language that results in more than a correction or clarification
    - Required to correct a market inefficiency or gaming opportunity
    - FERC action or involves a NERC standard
    - BOD Directive
    - Requires additional FTEs to manage in production
    - Requires member-facing or impacting system or process changes
    - Impacts long-term reliability

Prioritize

NUMERIC PRIORITIZATION

- Assign a number between 1 and 37
  - 1 is the highest priority
- Unique values only, no ties/repeat priority

Prioritize

WEIGHTED PRIORITIZATION

- Point pool calculated based on total number of initiatives included in prioritization
  - 1) 37 initiatives * 5 = 185 point factor
  - 2) 37 * 185 = 6,845 total point pool
  - 3) 6,845 * 30% = 2,054 point allocation cap
- Unique values only, unless applying zero
- Assign a number of points to initiatives
  - Highest number of points = highest priority

Prioritize

WEIGHTED PRIORITIZATION - EXAMPLE

- RTO point allocation logic – **Optional approach**
- 1) Divide initiatives into 3 categories, within a 5 year schedule:
  - Must Do
  - Possibly Should Do
  - Should not, or don't want to do
- 2) Allocate 75% of point pool to Must Do category, 25% of to Should Do category, zero to Should not do category
- 3) Divide points evenly across initiatives in each category
- 4) Distribute +1/-1 depending on outcome to ensure no value is the same

Prioritize

WEIGHTED PRIORITIZATION - EXAMPLE

EXAMPLE - CLICK to SEE EXAMPLE

Total Point Allocation Example	
5,940	
75%	3960
25%	1980
Must or should do - number of initiatives	9
Possibly should do - number of initiatives	11
Points to allocate to each Must do initiative	440
Points to allocate to each Possibly should do initiative	180

EXAMPLE SPP WEIGHTED PRIORITIZATION

	Initiative Rank
1	SIR 7, SIR 9 - Decommitment and Enhanced Commitment
2	SIR 42 - Transactional Incentives and Scheduling Inefficiencies
3	SIR 36 - Reg-up for VERS
4	SIR 25 - DC TIE Optimization
5	SIR 35 - Reduce Self-Commitments and Consider Extending DA Market
6	SIR 30 - Energy Storage Resources Phase 2
7	SIR 8 - Distributed Energy Resources for Markets
8	SIR 38 - RTBM Submit Timing
9	SIR 44 - Ancillary Service Buyback Risk
10	SIR 24, SIR 45 - MCR Design Expansion and Enhancements & MCR Logic
11	SIR 5 - Coordinated Transaction Scheduling

	SPP Scor
Initiative	SPP
SIR 10 - FFE Exchange Process	177
SIR 8 - Distributed Energy Resources for Markets	438
SIR 7, SIR 9 - Decommitment and Enhanced Commitment	444
SIR 21, SIR 49 - Interface Pricing & Interfacing Pricing Granularity	178
SIR 24, SIR 45 - MCR Design Expansion and Enhancements & MCR Logic	185
SIR 1 - Actual meter data for Initials and State Estimator Load Value Tolerance	176
SIR 3 - Cold Start Logic	0
SIR 5 - Coordinated Transaction Scheduling	184
SIR 6 - DA Must Offer and Physically Withholding	0
SIR 11 - Generalized DC	182
SIR 20 - Improved Economic Incentive of Regulation Mileage	183

Prioritize

COMBINED WEIGHTED INITIATIVE PRIORITIZATION

- Sums collective ORWG prioritization results from numeric and weighted steps
  - Example: SIR1 = 1 numeric priority, SIR1 = 2 in weighted priority, therefore final combined priority is 3
  - Logic repeats for all initiatives, final result is based on summed value
    - *SIR 1 Numeric rank = 1, Weighted Rank = 2*
    - *SIR 2 Numeric rank = 2, Weighted Rank = 3*
    - *SIR 3 Numeric rank = 4, Weighted Rank = 4*
    - *SIR 4 Number rank = 3, Weighted Rank = 1*
  - Score values would be SIR 1 = 3, SIR 2 = 5, SIR 3 = 8, SIR 4 = 4
  - Final prioritization would be:
    1. SIR1
    2. SIR4
    3. SIR 2
    4. SIR 3

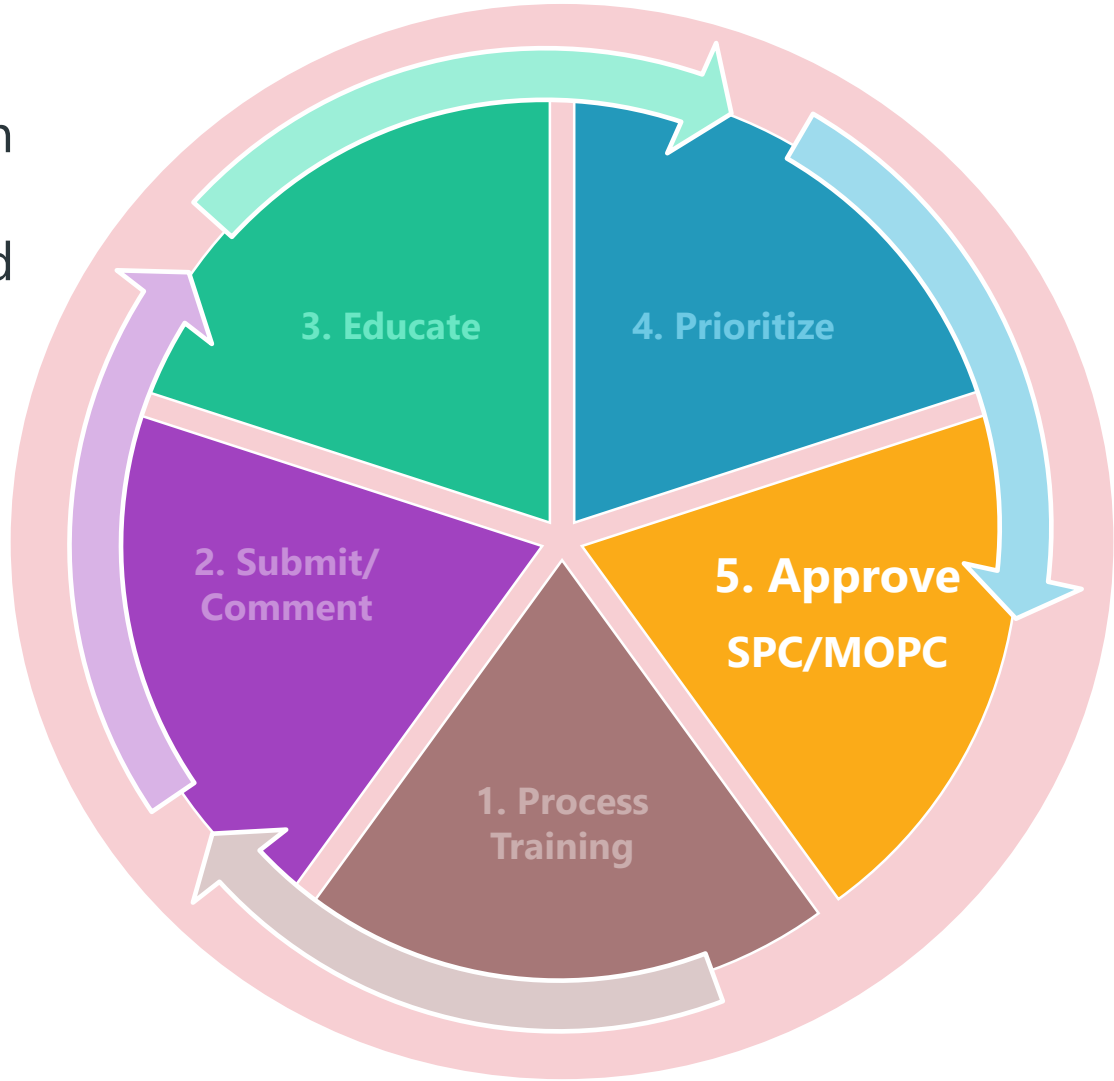
Prioritize

INITIATIVE PRIORITIZATION

- 77 Planning initiatives
  - 29 not included in prioritization
    - Mandated, Directed, with in 18 months of approval, parent initiatives
  - 48 to be prioritized
- TWG, ESWG, & MDAG representative companies will perform individual prioritization
  - If a company has representation on more than one group they will only respond once
  - Tool and process instructions emailed to representatives
  - 2 week turnaround
- Prioritization results review session will be scheduled
  - Adjust and approve final prioritization

2022 Roadmap Development Remaining Activities

- **Approval**
  - Functional area groups approve prioritization
  - SPP proposes schedule based on priority and resource availability
  - SPC reviews comprehensive initiative roadmap and analysis
    - Recommendation to MOPC
  - MOPC reviews comprehensive initiative roadmap, analysis and SPC recommendation
    - Approves roadmap
  - Approved Roadmap input to SPP PMO, budgeting, stakeholder processes



COMPREHENSIVE ROADMAP RESOURCES

- SPP Roadmap Webpage
- SPP Roadmap Exploder
- Request Management System
- Erin Cathey – ecathey@spp.org

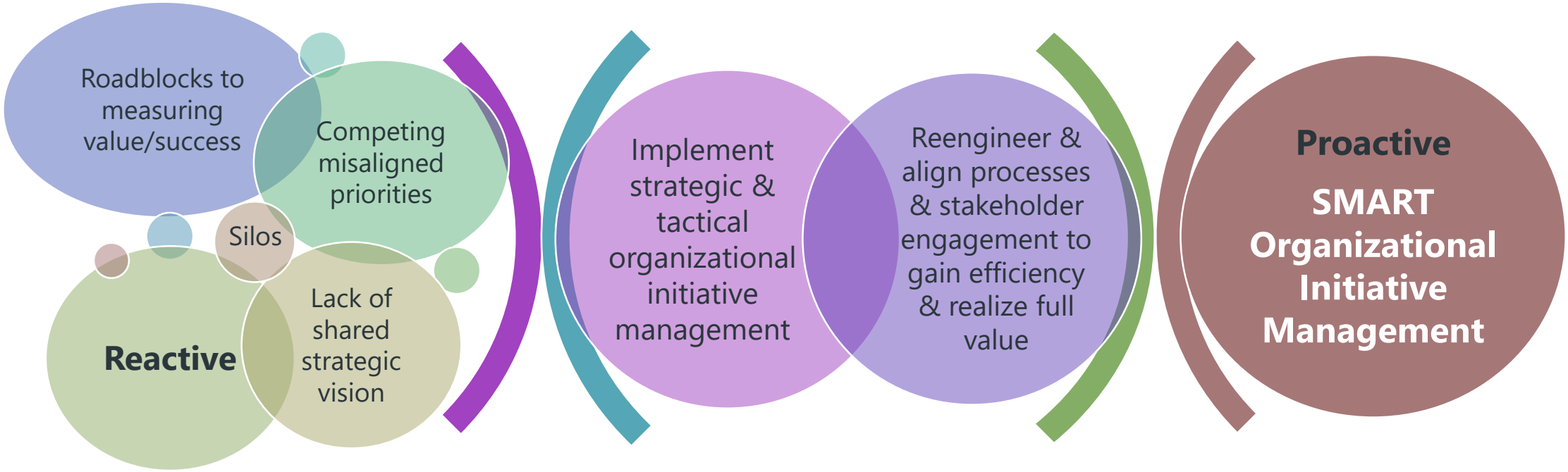
APPENDIX – ROADMAP PROCESS BACKGROUND

VALUE AND AFFORDABILITY

"SPP must understand its stakeholders' and members diverse' interests and consider competing demands and pressures as necessary and appropriate while ensuring the organization is positioned to create the sustainable, long-term value in which all stakeholders have an interest as a unified body."

- Stakeholders requested:
  - Increased transparency regarding work
  - Increased collaboration through vetting, approval, opportunity for input
  - Increased transparency & consideration of initiative impact on budget
  - Efficiency and improvement in RR process
  - Clarity and improvement in stakeholder prioritization
  - Streamlined stakeholder processes

Improving Organizational Initiative Management
A comprehensive and strategic approach



Depleted Value

Constraining manual processes
Resource Constraints
Rework
Redundant/overlapping efforts & priorities
Confusion
Ineffective engagement

Enhanced Value

Programmatic data management & reporting
Proactive responsiveness
Improved business cases, success measures
Efficient, effective, aligned process
Shared strategic vision & priorities
Effective engagement

Improving Organizational Initiative Management

A holistic approach

A proactive living work plan for enhancing SPP's future

What is a Roadmap

Unified path to achieving strategic goals and creating sustainable long-term value

Evaluates initiatives both on their own merit and on how they support SPP's strategy

Facilitates shared vision and informed decision making

Enhances ability to measure value and affordability

Diversified - strategic and tactical

Roadmap Benefits

Increases transparency & collaboration

Balances diverse stakeholder interests

Aligns with SPP's strategic plan, budgets & portfolio management

Ensures focus on greatest area of need

Enhances coordination within SPP and Stakeholders

Flexible

Stakeholders' Role

Annually select, rank & approve initiatives

Provide education on submitted initiatives

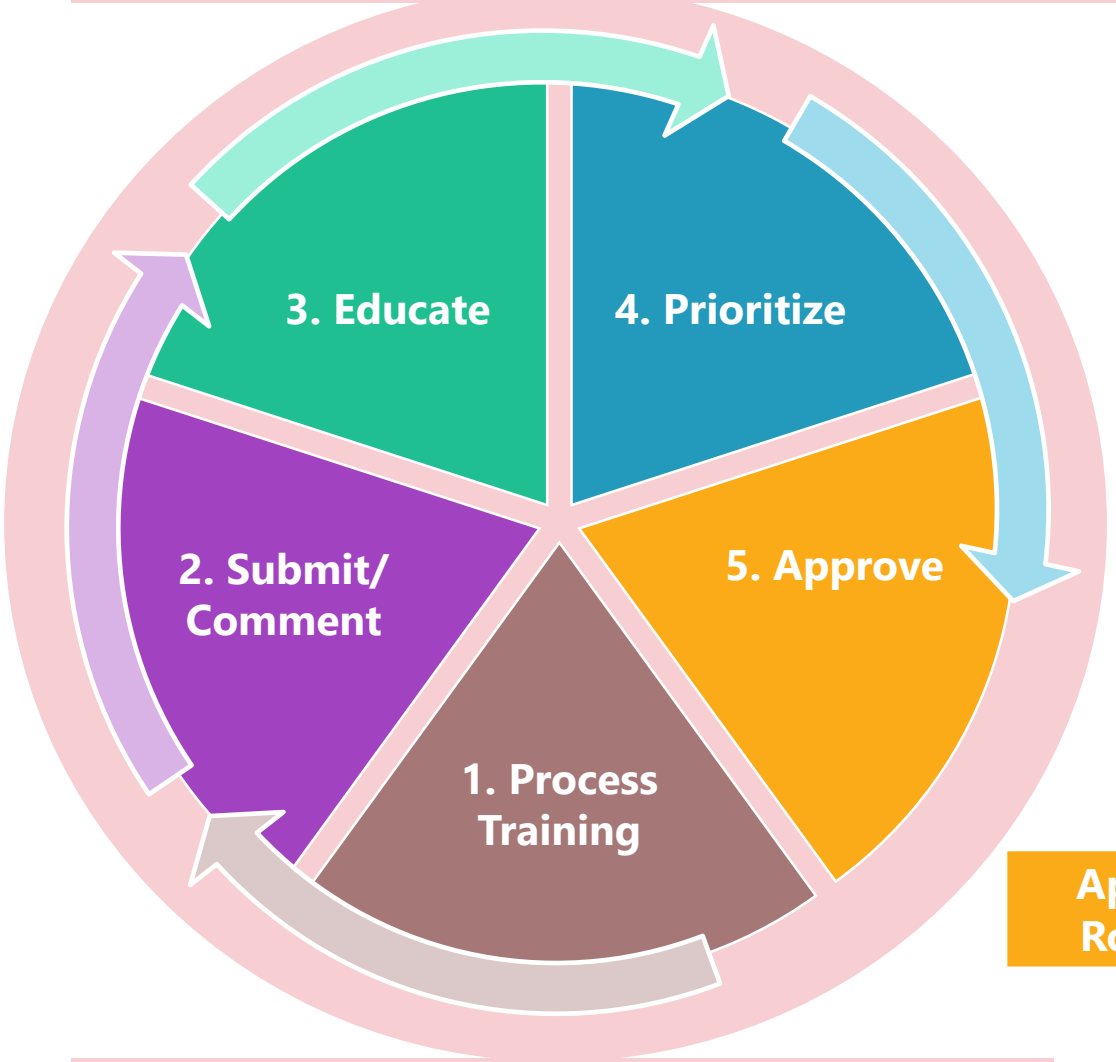
Balance ad-hoc initiatives against approved roadmap initiatives

Monthly review progress & recommend adjustments

Proactively plan at stakeholder organizations

Markets, Operations, Planning, Supply Adequacy, Oversight

SPP Roadmap Development Process



Proactive, Feeds Design Development

Approved Roadmap

Design Development Process

Ad-hoc Initiative Management

APPENDIX - ROADMAP DEVELOPMENT RESULTS (MARKET ROADMAP)

Requesting SPC endorsement of the "2020 Strategic Market Roadmap"

	2020 Strategic Market Roadmap		
Rank	**Initiative**	**Est. Start**	**Est. MOPC**
1	SIR 19 - HITT R4: Implement Uncertainty Market Product	2019	2020
2	SIR 17 - HITT R3b: Implement Marketplace Enhancements: Fast Start Resources (Enhancement)	2019	2020
3	SIR 12 - HITT M1: Implement Congestion Hedging Improvements	2019	2020
4	SIR 18 - HITT R3c: Implement Marketplace Enhancements: Multi-Day Market (Phase 1 & 2)	2019	2022
5	SIR 16 - HITT R1-2: Study and Implement ERS and ORS Compensation Models Based on Study Results (Phase 1 & 2)	2019	2022
6	SIR 15, SIR 28, SIR 41 - HITT M4: Study Economic Evaluations of Reliability, Outage Mitigation, TOP Incentives (Phase 1)	2019	2020
7	SIR 13, SIR 50 - HITT M2: Study Offer Requirements for VERs, Incentive for Renewables in Day Ahead Market (Phase 1)	2019	2021
8	SIR 14 - HITT M3: Study Mitigation of Unduly Low Offers that Create Uneconomic Dispatch	2019	2021
9	SIR 30 - HITT S3: Energy Storage Resources & ESR Phase 2 (Phase 1)	2020	2021
10	SIR 7, SIR 9 - Decommitment & Enhanced Commitment	2020	2021
11	SIR 35 - Reduce Self-Commitments & Consider Extending DA Market	2020	2021
12	SIR 38 - RTBM Submit Timing & SIR22 - Limit Market Power Through Physical Parameters	2020	2021
13	SIR 24, SIR 45 - MCR Design Expansion and Enhancements & MCR Logic	2021	2022
14	SIR 32 - Price formation During Conservative Operations & Emergency Conditions	2020	2022
15	SIR 29 - Overlapping Congestion Across Seams	2021	2022
16	SIR 8 - Distributed Energy Resources for Markets	2021	2023
17	SIR 36 - Reg-up for VERS	2021	2022
18	SIR 42 - Transactional Incentives and Scheduling Inefficiencies (Phase 1)	2019	2020
19	SIR 20 - Improved Economic Incentive of Regulation Mileage	2021	2022
20	SIR 53 - Cost Allocation	2024	2026
21	SIR 44 - Ancillary Service Buyback Risk	2021	2022
22	SIR 25 - DC TIE Optimization	2021	2022
23	SIR 5 - Coordinated Transaction Scheduling	2022	2024
24	SIR 10 - FFE Exchange Process	2021	2022
25	SIR 31 - Pre Synchronization Unit Commitment	2022	2023
26	SIR 6 - DA Must Offer and Physically Withholding	2022	2023
27	SIR 51 - Dynamic Scheduling Interchange	2023	2024
28	SIR 52 - DVER Ramp Rate Limits	2022	2023
29	SIR 21, SIR 49 - Interface Pricing & Interfacing Pricing Granularity	2022	2024
30	SIR 11 - Generalized DC	2024	2025
31	SIR 23 - Market-to-Market Allocations	2022	2023
32	SIR 37 - Resource Ramp Rate Interaction	2023	2024
33	SIR 1- Actual Meter Data for Initials & State Estimator Load Value Tolerance	2024	2025
34	SIR 34 - Real-Time Hedging Product	2022	2024
PL	SIR 33 - Protect Day-Ahead Margin	TBD	TBD
PL	SIR 3 - Cold Start Logic	TBD	TBD
PL	SIR 47 - Enhanced Visual Tools SPP Website	TBD	TBD

ROADMAP RANKING & PRIORITIZATION

- MWG, SPP RTO Staff, SPP MMU Staff, interested stakeholders
- 53 Initiatives submitted, evaluated in education (1) and ranking & prioritization sessions (2)
  - Removed 9 initiatives
  - Combined 13 initiatives
- 44 Initiatives ranked and prioritized
- 3 priority buckets

High Priority 19 Initiatives (9 HITT) 2019-2020	Medium Priority 22 Initiatives 2020-2024	Parking Lot 3 Initiatives No Schedule

- 2019-2024

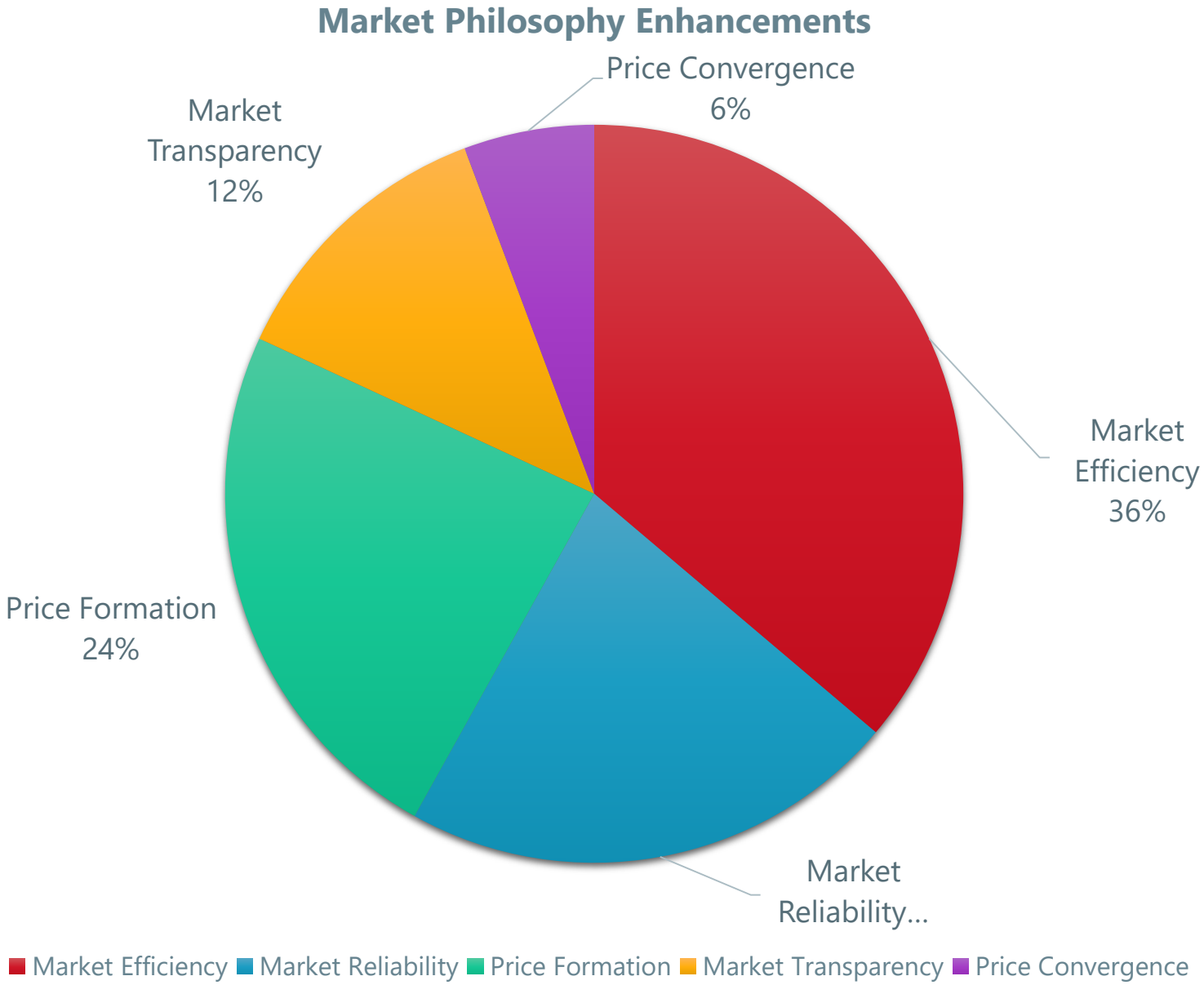
ROADMAP RANKING & PRIORITIZATION

- Initiatives evaluated for value and impact
  - Alignment with Strategic Plan
  - Alignment with MMU issues and ASOM recommendations
  - Enhancement of Key Market Philosophies
    - Market Reliability
    - Market Efficiency
    - Market Transparency
    - Price Formation
    - Price Convergence
  - Potential Impact
    - Design and Implementation Complexity
    - MCE Performance
    - System Changes
  - Other Functional Area Impacts (Planning and Operations)

Transparent and Collaborative

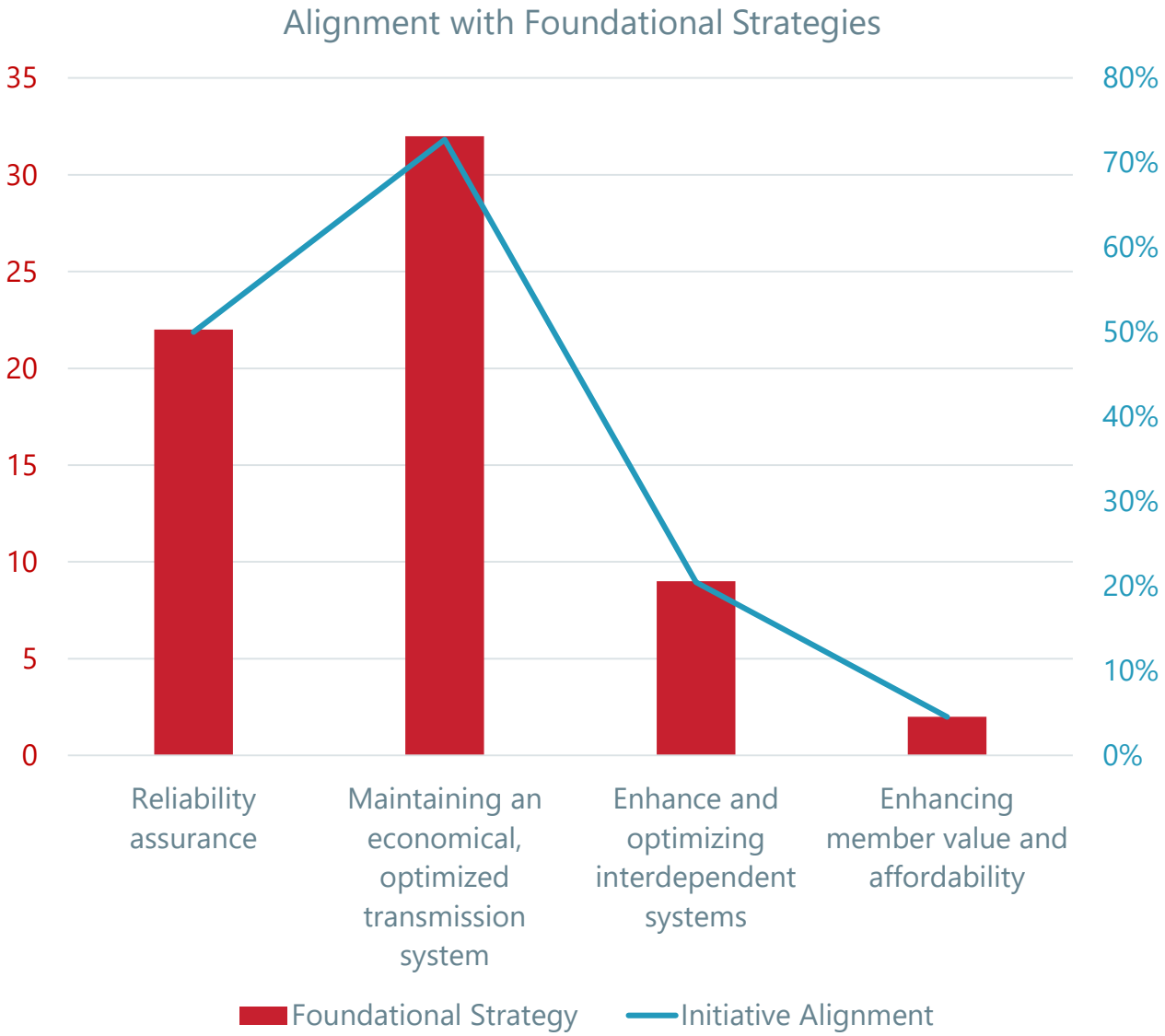
MWG Members and Stakeholders
SPP RTO Staff
SPP MMU Staff

ROADMAP RANKING & PRIORITIZATION RESULTS



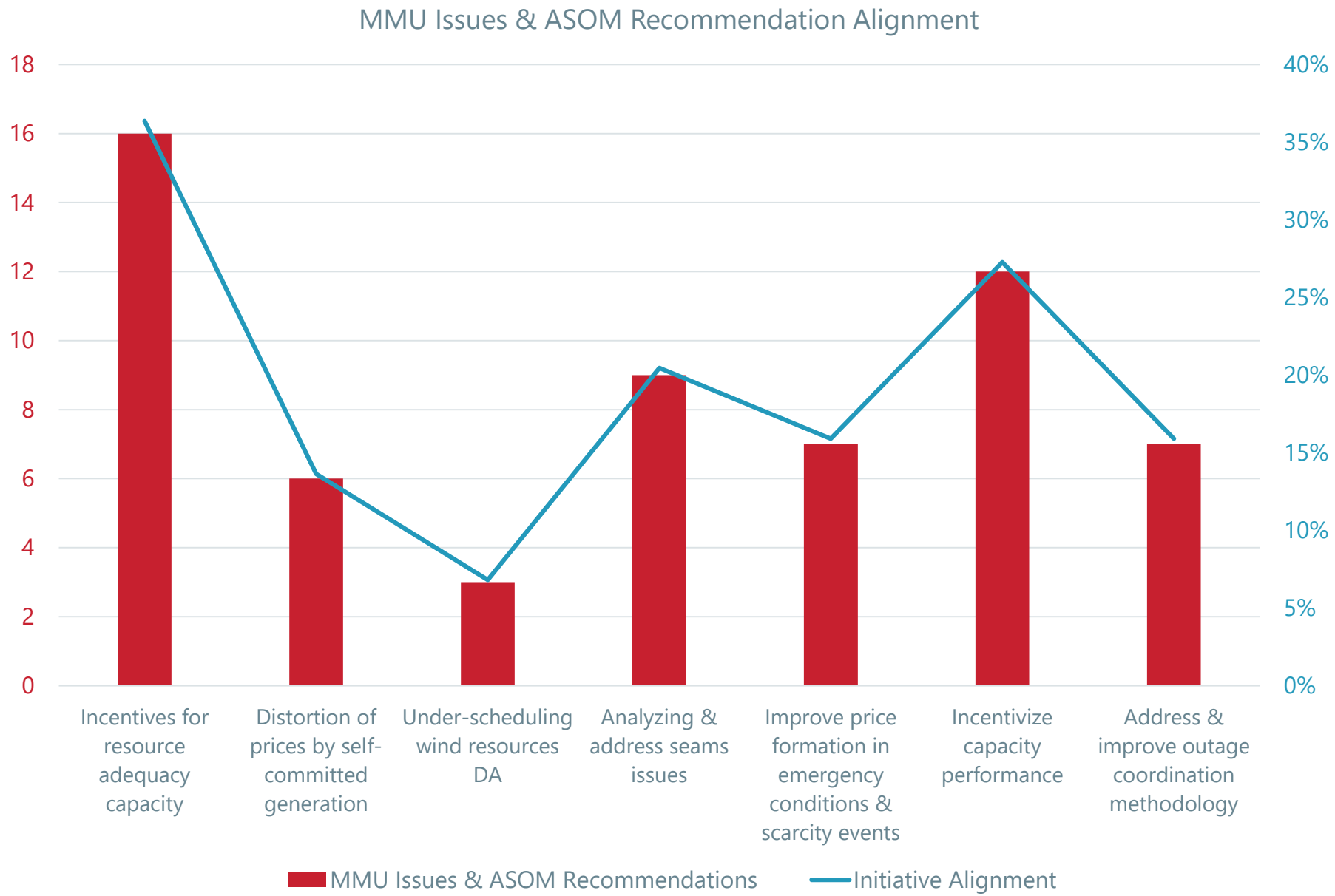
- 36% potentially enhance market efficiency (38/44)
- 24% potentially enhance price formation (25/44)
- 22% potentially enhance market reliability (23/44)
- 12% potentially enhance market transparency (13/44)
- 6% potentially enhance price convergence (6/44)
- *Not included - 2/44 decrease Market Transparency and 4/44 increase risk of opportunity for Market Manipulation*

ROADMAP RANKING & PRIORITIZATION RESULTS



- 50% - Align with "Reliability Assurance"
  - Integration of VERS, Security Resilience, Reliability Excellence, and/or Regional Resource Needs
- 73% - Align with "Maintaining an economical, optimized transmission system"
  - ARR/TCR Feasibility, Optimized Strategies for the Future, and/or Value Pricing
- 20% - Align with "Enhance and Optimizing Interdependent Systems"
  - Transmission (Seams), Optimize Markets Efficiencies Along the Seams, and/or Grid Resilience
- 5% - Align with "Enhancing Member Value and Affordability"
  - Communication Strategy, PMO Best Practices, and Strategic Membership Expansion

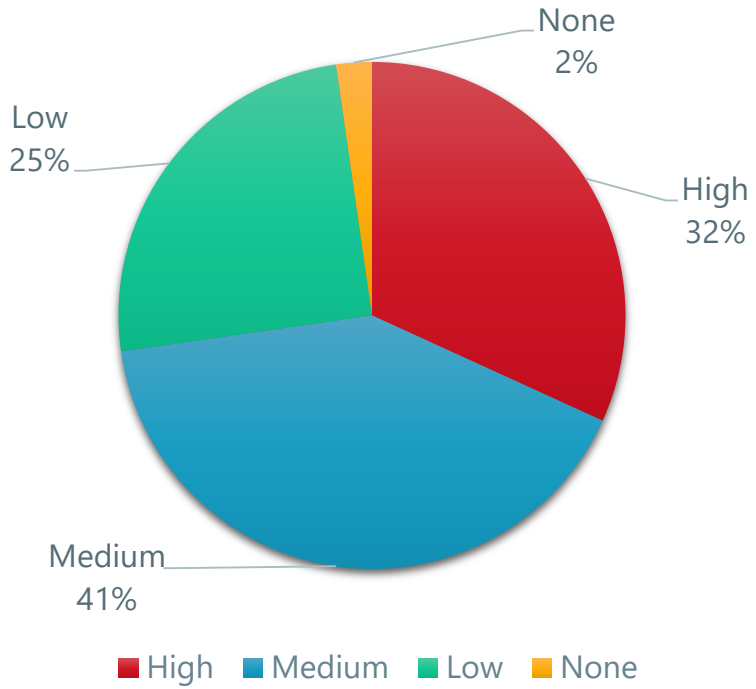
ROADMAP RANKING & PRIORITIZATION RESULTS



- **36%** address "Incentives for resource adequacy capacity" (16/44)
- **27%** address "Incentivize capacity performance" (12/44)
- **20%** address "Analyzing and addressing seams issues" (9/44)
- **16%** address "Improve Price formation during emergency conditions and scarcity events" (7/44)
- **16%** address "Update and improve outage coordination methodology" (7/44)
- **14%** address "Distortion of prices by self-committed generation" (6/44)
- **7%** address "Under-scheduling of wind resources in DA" (3/44)

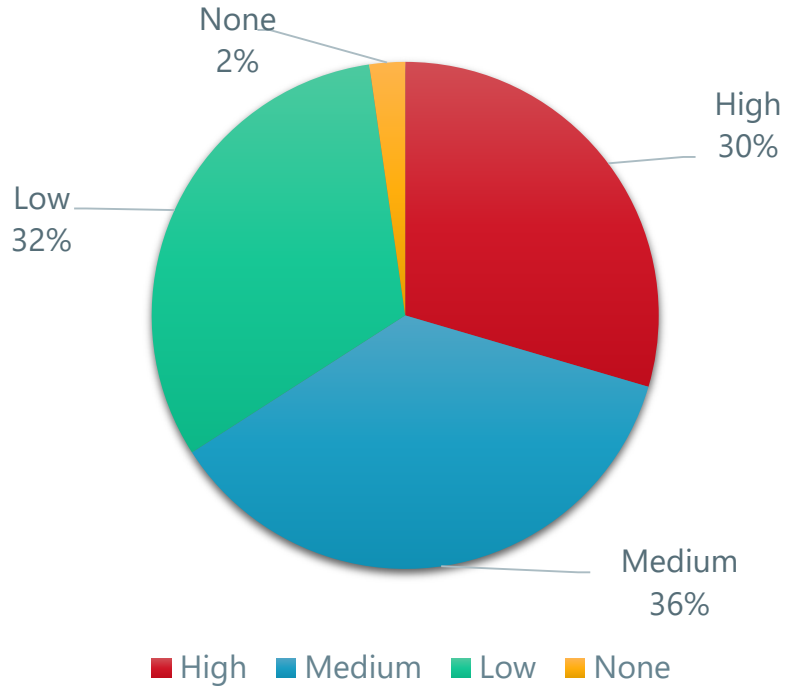
ROADMAP RANKING & PRIORITIZATION RESULTS

Design Complexity



- **High** - **32%** potentially involve a highly complex process to research and analyze design options (14/44)
- **Medium** - **41%** potentially involve a moderately complex process to research and analyze design options (18/44)
- **Low** – **25%** potentially involve a minimally complex process to research and analyze design options (11/44)
- **None** – **2%** will not involve any level of complexity to research and analyze design options (1/44)

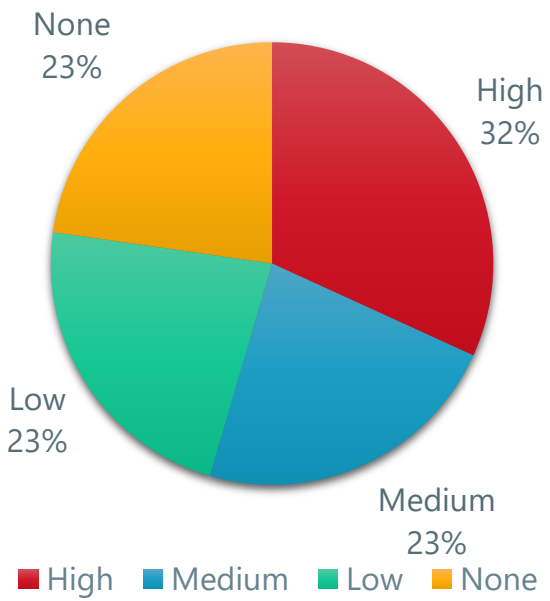
Implementation Effort



- **High** - **30%** potentially involve a highly complex process to implement the chosen design (13/44)
- **Medium** – **36%** potentially involve a moderately complex process to implement the chosen design (16/44)
- **Low** – **25%** potentially involve a minimally complex process to implement the chosen design(14/44)
- **None** – **2%** no level of complexity to implement (1/44)

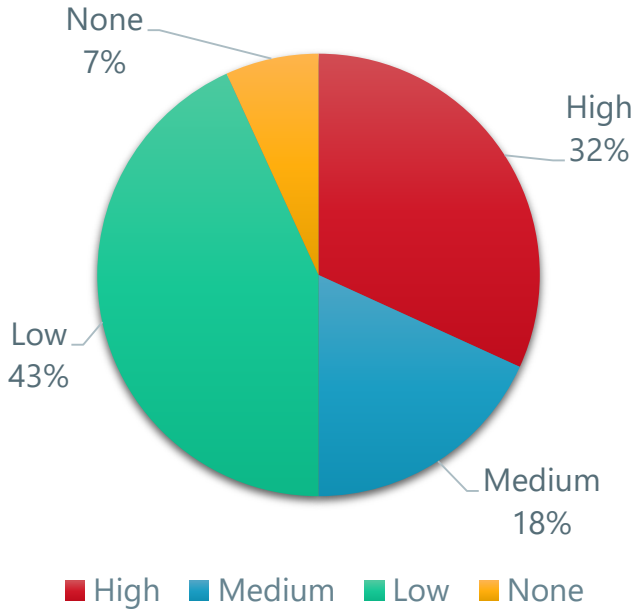
ROADMAP RANKING & PRIORITIZATION RESULTS

MCE Performance Impact



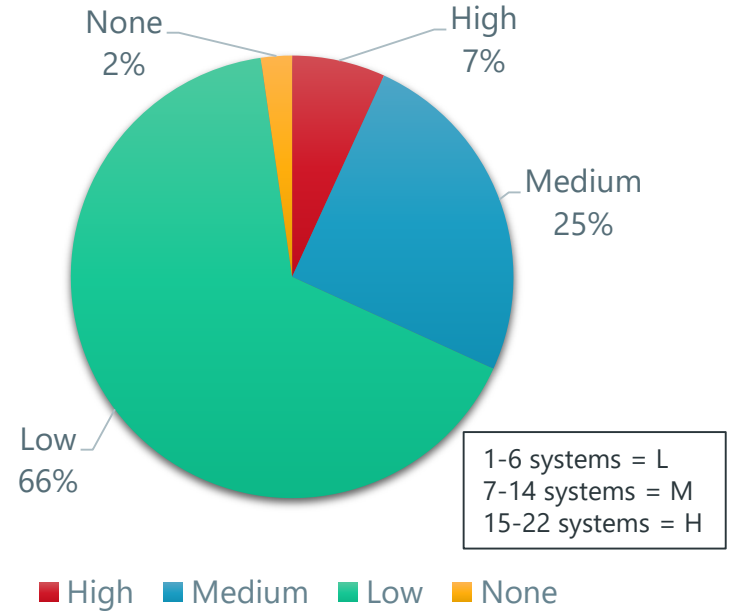
- **High – 32%** potentially highly impact MCE performance (14/44)
- **Medium – 23%** potentially moderately impact MCE performance (10/44)
- **Low – 23%** potentially minimally impact MCE performance (10/44)
- **None – 23%** will not have an impact on MCE performance (10/44)

Overall Market SW Impact



- **High – 32%** potentially require highly involved system changes (14/44)
- **Medium – 18%** potentially require moderately involved system changes (8/44)
- **Low – 43%** potentially require minimally involved system changes (19/44)
- **None – 7%** will not impact systems in a substantial way (3/44)

Number of Systems Impacted



- **High – 7%** impacted a high number systems (3/44)
- **Medium – 25%** impacted a moderate number of systems (11/44)
- **Low – 66%** impacted a low number of systems (29/44)
- **None – 2%** did not have system impacts (1/44)

Rank	Initiative	Est. Start	Est. MOPC Approval	SPP	MWG	MMU	All
1	SIR 19 - HITT R4: Implement Uncertainty Market Product	2019	2020	1	3	1	1.7
2	SIR 17 - HITT R3b: Implement Marketplace Enhancements: Fast Start Resources (Enhancement)	2019	2020	2	2	3	2.3
3	SIR 12 - HITT M1: Implement Congestion Hedging Improvements	2019	2020	3	8	6	5.7
4	SIR 18 - HITT R3c: Implement Marketplace Enhancements: Multi-Day Market (Phase 1 and 2)	2019	2022	4	1	2	2.3
5	SIR 16 - HITT R1-2: Study & Implement ERS/ORS Compensation Models Based on Study Results (Phase 1 & 2)	2019	2022	5	6	8	6.3
6	SIR 15, SIR 28, SIR 41-HITT M4: Study Eco Evaluations of Reliability, Outage Mitigation, TOP Incentives (Phase 1)	2019	2020	7	5	7	6.3
7	SIR 13, SIR 50-HITT M2: Study Offer Reqs for VERs, incentive for Renewables in Day Ahead Market (Phase 1)	2019	2021	6	4	4	4.7
8	SIR 14 - HITT M3: Study Mitigation of Unduly Low Offers that Create Uneconomic Dispatch	2019	2021	8	7	5	6.7
9	SIR 30 - HITT S3: Energy Storage Resources and ESR Phase 2 (phase 1)	2020	2021	9	10	12	10.3
10	SIR 7, SIR 9 - Decommitment and Enhanced Commitment	2020	2021	13	11	11	11.7
11	SIR 35 - Reduce Self-Commitments and Consider Extending DA Market	2020	2021	14	9	18	13.7
12	SIR 38 - RTBM Submit Timing and SIR22 - Limit Market Power Through Physical Parameters	2020	2021	16	13	19	16.0
13	SIR 24, SIR 45 - MCR Design Expansion and Enhancements & MCR Logic	2021	2022	21	16	16	17.7
14	SIR 32 - Price formation During Conservative Operations and Emergency Conditions	2020	2022	18	12	20	16.7
15	SIR 29 - Overlapping Congestion Across Seams	2021	2022	15	15	24	18.0
16	SIR 8 - Distributed Energy Resources for Markets	2021	2023	11	23	22	18.7
17	SIR 36 - Reg-up for VERS	2021	2022	10	34	15	19.7
18	SIR 42 - Transactional Incentives and Scheduling Inefficiencies (Phase 1)	2019	2020	24	19	9	17.3
19	SIR 20 - Improved Economic Incentive of Regulation Mileage	2021	2022	20	20	21	20.3
20	SIR 53 - Cost Allocation	2024	2026	38	27	23	29.3
21	SIR 44 - Ancillary Service Buyback Risk	2021	2022	27	18	17	20.7
22	SIR 25 - DC TIE Optimization	2021	2022	17	16	37	23.3
23	SIR 5 - Coordinated Transaction Scheduling	2022	2024	32	23	13	22.7
24	SIR 10 - FFE Exchange Process	2021	2022	12	30	26	22.67
25	SIR 31 - Pre Synchronization Unit Commitment	2022	2023	27	27	27	27.0
26	SIR 6 - DA Must Offer and Physically Withholding	2022	2023	19	18	17	18.0
27	SIR 51 - Dynamic Scheduling Interchange	2023	2024	23	32	28	27.7
28	SIR 52 - DVER Ramp Rate Limits	2022	2023	27	23	14	21.3
29	SIR 21, SIR 49 - Interface Pricing & Interfacing Pricing Granularity	2022	2024	22	21	24	22.3
30	SIR 11 - Generalized DC	2024	2025	28	31	32	30.3
31	SIR 23 - Market-to-Market Allocations	2022	2023	28	28	28	28.0
32	SIR 37 - Resource Ramp Rate Interaction	2023	2024	31	26	27	28.0
33	SIR 1 - Actual meter data for Initials and State Estimator Load Value Tolerance	2024	2025	41	21	31	31.0
34	SIR 34 - Real-Time Hedging Product	2022	2024	25	13	39	25.7
PL	SIR 33 - Protect Day-Ahead Margin	TBD	TBD	29	37	29	31.7
PL	SIR 3 - Cold Start Logic	TBD	TBD	33	27	37	32.3
PL	SIR 47 - Enhanced Visual Tools SPP Website	TBD	TBD	37	29	34	33.3

2019 – 2020

A living work plan for enhancing SPP's Future

- 14 Initiatives ongoing/new, includes 9 HITT initiatives

Rank	Initiatives	Est. Research and Analysis Start	Est. MOPC Approval
1	SIR 19 - HITT R4: Implement Uncertainty Market Product	2019	2020
2	SIR 17 - HITT R3b: Implement Marketplace Enhancements: Fast Start Resources (Enhancement)	2019	2020
3	SIR 12 - HITT M1: Implement Congestion Hedging Improvements	2019	2020
4	SIR 18 - HITT R3c: Implement Marketplace Enhancements: Multi-Day Market (Phase 1 and 2)	2019	2022
5	SIR 16 - HITT R1-2: Study and Implement ERS and ORS Compensation Models Based on Study Results (Phase 1 & 2)	2019	2022
6	SIR 15, SIR 28, SIR 41 - HITT M4: Study Eco Evaluations of Reliability, Outage Mitigation, TOP Incentives (Phase 1)	2019	2020
7	SIR 13, SIR 50 - HITT M2: Study Offer Reqs for VERs, Incentive for Renewables in DA Market (Phase 1)	2019	2021
8	SIR 14 - HITT M3: Study Mitigation of Unduly Low Offers that Create Uneconomic Dispatch	2019	2021
9	SIR 30 - HITT S3: Energy Storage Resources and ESR Phase 2 (phase 1)	2020	2021
10	SIR 7, SIR 9 - Decommitment and Enhanced Commitment	2020	2021
11	SIR 35 - Reduce Self-Commitments and Consider Extending DA Market	2020	2021
12	SIR 38 - RTBM Submit Timing and SIR22 - Limit Market Power Through Physical Parameters	2020	2021
14	SIR 32 - Price formation During Conservative Operations and Emergency Conditions	2020	2022
18	SIR 42 - Transactional Incentives and Scheduling Inefficiencies (Phase 1)	2019	2020

2019 – 2020

A living work plan for enhancing SPP's Future

	1	2	3	4	5	6	7	8
SIR 19 - HITT R4: Implement Uncertainty Market Product	H	H	H	H	H	M	H	L
SIR 17 - HITT R3b: Implement Marketplace Enhancements: Fast Start Resources (Enhancement)	M	H	L	M	H	H	L	L
SIR 12 - HITT M1: Implement Congestion Hedging Improvements	M	M	NA	H	M	L	H	L
SIR 18 - HITT R3c: Implement Marketplace Enhancements: Multi-Day Market	M	H	M	H	M	H	H	L
SIR 16 - HITT R1-2: Study and Implement ERS and ORS Compensation Models Based on Study Results	H	H	M	M	M	M	H	M
SIR 15 - HITT M4: Study Economic Evaluations of Reliability	H	H	L	H	H	H	M	H
SIR 28 - Outage Mitigation	M	M	L	H	H	H	L	M
SIR 41 - TOP Incentives	M	M	L	H	H	H	H	M
SIR 13 - HITT M2: Study Offer Requirements for VERs	M	H	L	L	L	L	M	L
SIR 50 - Incentive for Renewables in Day Ahead Market	M	M	L	M	M	M	H	L
SIR 14 - HITT M3: Study Mitigation of Unduly L Offers that Create Uneconomic Dispatch	H	H	NA	L	L	L	H	L
SIR 30 - HITT S3: Energy Storage Resources and ESR Phase 2	L	H	L	H	H	H	M	L
SIR 7 - Decommitment	M	M	L	H	M	H	L	M
SIR 9 - Enhanced Commitment	M	M	M	H	M	M	M	L
SIR 35 - Reduce Self-Commitments and Consider Extending DA Market	M	M	H	M	M	H	M	L
SIR 38 - RTBM Submit Timing and SIR22 - Limit Market Power Through Physical Parameters	M	NA	L	M	M	L	L	L
SIR 22 - Limit Market Power Through Physical Parameters	M	NA	L	M	M	L	L	L
SIR 32 - Price formation During Conservative Operations and Emergency Conditions	L	M	M	M	M	L	M	L
SIR 42 - Transactional Incentives and Scheduling Inefficiencies	M	M	L	L	L	L	H	L

- Potential Value Add
  1. Market Philosophy Enhancement
  2. Strategic Plan Alignment
  3. MMU issue/recommendation alignment
- Potential Short-term impact
  4. Design Complexity
  5. Implementation Complexity
- Potential Long-term impact
  6. MCE performance
  7. Overall system change
  8. Number of systems changed

2021

A living work plan for enhancing SPP's Future

- 8 new initiatives planned to start, 9 initiatives ongoing

Rank	New Initiatives	Est. Research and Analysis Start	Est. MOPC Approval
13	SIR 24, SIR 45 - MCR Design Expansion and Enhancements & MCR Logic	2021	2022
15	SIR 29 - Overlapping Congestion Across Seams	2021	2022
16	SIR 8 - Distributed Energy Resources for Markets	2021	2023
17	SIR 36 - Reg-up for VERS	2021	2022
19	SIR 20 - Improved Economic Incentive of Regulation Mileage	2021	2022
21	SIR 44 - Ancillary Service Buyback Risk	2021	2022
22	SIR 25 - DC TIE Optimization	2021	2022
24	SIR 10 - FFE Exchange Process	2021	2022

	Ongoing Initiatives		
4	SIR 18 - HITT R3c: Implement Marketplace Enhancements: Multi-Day Market (Phase 1 and 2)	2019	2022
5	SIR 16 - HITT R1-2: Study and Implement ERS and ORS Compensation Models Based on Study Results (Phase 1 & 2)	2019	2022
7	SIR 13, SIR 50 - HITT M2: Study Offer Requirements for VERs, Incentive for Renewables in Day Ahead Market (Phase 1)	2019	2021
8	SIR 14 - HITT M3: Study Mitigation of Unduly Low Offers that Create Uneconomic Dispatch	2019	2021
9	SIR 30 - HITT S3: Energy Storage Resources and ESR Phase 2 (phase 1)	2020	2021
10	SIR 7, SIR 9 - Decommitment and Enhanced Commitment	2020	2021
11	SIR 35 - Reduce Self-Commitments and Consider Extending DA Market	2020	2021
12	SIR 38 - RTBM Submit Timing and SIR22 - Limit Market Power Through Physical Parameters	2020	2021
14	SIR 32 - Price formation During Conservative Operations and Emergency Conditions	2020	2022

2021

A living work plan for enhancing SPP's Future

	1	2	3	4	5	6	7	8
SIR 24 - MCR Design Expansion and Enhancements	M	L	M	M	M	M	L	M
SIR 45 - MCR Logic	H	L	M	L	L	H	M	L
SIR 29 - Overlapping Congestion Across Seams	M	L	L	M	L	M	L	L
SIR 8 - Distributed Energy Resources for Markets	M	M	L	H	H	H	H	H
SIR 36 - Reg-up for VERS	L	M	NA	L	L	L	L	L
SIR 20 - Improved Economic Incentive of Regulation Mileage	L	L	NA	M	L	L	L	M
SIR 44 - Ancillary Service Buyback Risk	M	L	NA	L	M	M	H	L
SIR 25 - DC TIE Optimization	L	H	L	M	M	H	L	L
SIR 10 - FFE Exchange Process	L	M	L	M	L	L	L	L

- Potential Value Add
  1. Market Philosophy Enhancement
  2. Strategic Plan Alignment
  3. MMU issue/recommendation alignment
- Potential Short-term impact
  4. Design Complexity
  5. Implementation Complexity
- Potential Long-term impact
  6. MCE performance
  7. Overall system change
  8. Number of systems changed

2022

A living work plan for enhancing SPP's Future

- 7 new initiatives planned to start, 11 initiatives ongoing

Rank	New Initiatives	Est. Research and Analysis Start	Est. MOPC Approval
23	SIR 5 - Coordinated Transaction Scheduling	2022	2024
25	SIR 31 - Pre Synchronization Unit Commitment	2022	2023
26	SIR 6 - DA Must Offer and Physically Withholding	2022	2023
28	SIR52 - DVER Ramp Rate Limits	2022	2023
29	SIR 21, SIR 49 - Interface Pricing & Interfacing Pricing Granularity	2022	2024
31	SIR 23 - Market-to-Market Allocations	2022	2023
34	SIR 34 - Real-Time Hedging Product	2022	2024

	Ongoing Initiatives		
4	SIR 18 - HITT R3c: Implement Marketplace Enhancements: Multi-Day Market (Phase 1 and 2)	2019	2022
5	SIR 16 - HITT R1-2: Study and Implement ERS and ORS Compensation Models Based on Study Results (Phase 1 & 2)	2019	2022
13	SIR 24, SIR 45 - MCR Design Expansion and Enhancements & MCR Logic	2021	2022
14	SIR 32 - Price formation During Conservative Operations and Emergency Conditions	2020	2022
15	SIR 29 - Overlapping Congestion Across Seams	2021	2022
16	SIR 8 - Distributed Energy Resources for Markets	2021	2023
17	SIR 36 - Reg-up for VERS	2021	2022
19	SIR 20 - Improved Economic Incentive of Regulation Mileage	2021	2022
21	SIR 44 - Ancillary Service Buyback Risk	2021	2022
22	SIR 25 - DC TIE Optimization	2021	2022
24	SIR 10 - FFE Exchange Process	2021	2022

2022

A living work plan for enhancing SPP's Future

	1	2	3	4	5	6	7	8
SIR 5 - Coordinated Transaction Scheduling	M	M	L	H	H	L	L	M
SIR 31 - Pre Synchronization Unit Commitment	M	L	M	M	H	H	H	M
SIR 6 - DA Must Offer and Physically Withholding	L	M	L	M	L	L	M	L
DVER Ramp Rate Limits	M	L	L	L	L	L	L	L
SIR 21 - Interface Pricing	M	M	L	M	L	L	H	L
SIR 49 - Interfacing Pricing Granularity	M	M	L	L	L	L	H	L
SIR 23 - Market-to-Market Allocations	L	L	L	H	H	L	L	L
SIR 34 - Real-Time Hedging Product	L	L	NA	M	M	H	L	M

- Potential Value Add
  1. Market Philosophy Enhancement
  2. Strategic Plan Alignment
  3. MMU issue/recommendation alignment
- Potential Short-term impact
  4. Design Complexity
  5. Implementation Complexity
- Potential Long-term impact
  6. MCE performance
  7. Overall system change
  8. Number of systems changed

2023

A living work plan for enhancing SPP's Future

- 2 new initiatives planned to start, 8 initiatives ongoing

Rank	New Initiatives	Est. Research and Analysis Start	Est. MOPC Approval
27	SIR51 - Dynamic Scheduling Interchange	2023	2024
32	SIR 37 - Resource Ramp Rate Interaction	2023	2024

	Ongoing Initiatives		
16	SIR 8 - Distributed Energy Resources for Markets	2021	2023
23	SIR 5 - Coordinated Transaction Scheduling	2022	2024
25	SIR 31 - Pre Synchronization Unit Commitment	2022	2023
26	SIR 6 - DA Must Offer and Physically Withholding	2022	2023
28	SIR52 - DVER Ramp Rate Limits	2022	2023
29	SIR 21, SIR 49 - Interface Pricing & Interfacing Pricing Granularity	2022	2024
31	SIR 23 - Market-to-Market Allocations	2022	2023
34	SIR 34 - Real-Time Hedging Product	2022	2024

2023

A living work plan for enhancing SPP's Future

	1	2	3	4	5	6	7	8
Dynamic Schedule Interchange	M	M	L	M	M	M	H	M
SIR 37 - Resource Ramp Rate Interaction	L	L	NA	L	H	L	L	L

- Potential Value Add
  1. Market Philosophy Enhancement
  2. Strategic Plan Alignment
  3. MMU issue/recommendation alignment
- Potential Short-term impact
  4. Design Complexity
  5. Implementation Complexity
- Potential Long-term impact
  6. MCE performance
  7. Overall system change
  8. Number of systems changed

2024

A living work plan for enhancing SPP's Future

- 3 new initiatives planned to start, 5 initiatives ongoing

Rank	New Initiatives	Est. Research and Analysis Start	Est. MOPC Approval
20	SIR 53 - Cost Allocation	2024	2026
30	SIR 11 - Generalized DC	2024	2025
33	SIR 1 - Actual meter data for Initials and State Estimator Load Value Tolerance	2024	2025

	Ongoing Initiatives		
23	SIR 5 - Coordinated Transaction Scheduling	2022	2024
27	SIR51 - Dynamic Scheduling Interchange	2023	2024
29	SIR 21, SIR 49 - Interface Pricing & Interfacing Pricing Granularity	2022	2024
32	SIR 37 - Resource Ramp Rate Interaction	2023	2024
34	SIR 34 - Real-Time Hedging Product	2022	2024

2022

A living work plan for enhancing SPP's Future

	+	+	+	-	-	-	-	-
Cost Allocation	M	L	NA	H	H	M	L	H
SIR 11 - Generalized DC	L	M	L	H	H	H	L	M
SIR 1 - Actual meter data for Initials and State Estimator Load Value Tolerance	NA	NA	NA	L	L	L	L	L
	1	2	3	4	5	6	7	8

- **Potential Value Add**
  1. Market Philosophy Enhancement
  2. Strategic Plan Alignment
  3. MMU issue/recommendation alignment
- **Potential Short-term impact**
  4. Design Complexity
  5. Implementation Complexity
- **Potential Long-term impact**
  6. MCE performance
  7. Overall system change
  8. Number of systems changed

PARKING LOT

- 3 initiatives not planned

Rank	Initiatives	Est. Research and Analysis Start	Est. MOPC Approval
PL	SIR 33 - Protect Day-Ahead Margin	TBD	TBD
PL	SIR 3 - Cold Start Logic	TBD	TBD
PL	SIR 47 - Enhanced Visual Tools SPP Website	TBD	TBD

QUESTIONS

Erin Cathey

Lead Strategic Initiative Coordinator

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SPP Southwest Power Pool

2021 ITP

2021 ITP FURTHER EVALUATION

CROSSROADS-PHANTOM DOUBLE CIRCUIT 345 KV PROJECT

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

SouthwestPowerPool SPPorg southwest-power-pool

BACKGROUND

- MOPC endorsed the 2021 ITP recommended plan, with the exception of approving the Crossroads-Phantom double circuit 345 kV project for construction
- MOPC also recommended further evaluation of the project, using updated information
  - Results of this evaluation will be brought back to the MOPC no later than July 2022

SPECIFICS OF CONTINUED EVALUATION

What it is

- Work with TWG/ESWG to update model assumptions
- Revisit needs assessment and portfolio development for SPS South target area
- Utilize existing solutions to determine best project(s)

What it is not

- Addressing any new unique system needs
- Opportunity for a new DPP submission window
- Only a determination of the need for the Crossroads-Phantom project

2021 **ITP**

MODEL UPDATES

DATA UPDATE PROCESS

- Work with local utilities and TWG/ESWG to identify specific data or assumptions to update
- Updates required to be as an ITP Manual, section 10.3 model update request
- Review section 10.3 requests for model implementation with TWG/ESWG
- TWG/ESWG model review and approval

POSSIBLE DATA/ASSUMPTION UPDATES

- Starting Point: Approved 2021 ITP model BR and MEM models
- Possible known model changes for considerations
  - Load forecast reduction in area 526
  - Recommissioning of planned generator retirements
  - Switching off local in-line reactors
  - Local delivery point additions
  - 2021 ITP approved NTCs
  - 2021 ITP model corrections
- Other considerations
  - Tolk 1 & 2 retirements scheduled for 2032
  - Combined cycle plant in NM and associated GOF (RP2 resource)

*Model updates outside of SPS South target area will be considered based upon potential to impact the results

ITP REBASELINE UPDATE

CHRIS DAVIS

FEBRUARY 2022

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

OVERVIEW

- ESWG, TWG and MOPC approved option 2 at January 2022 meetings to perform a reliability-only 2022 ITP and full assessments for 2023 ITP and 2024 ITP, with a request that staff brings back fully developed plan of study completion
- Timelines are being reviewed and full plan, including waivers required, will be brought back to March meetings for approval
- Overall items
  - Dependent on the 2021 ITP further evaluation directed by Jan. 2022 MOPC/Board
    - Timelines are being reviewed and full plan will be brought to March meetings for approval
  - Review governing documents and processes to pull ITP timeline back into 27-months
  - Recommend removal of the Market Powerflow Models (MPM)
    - TPL sensitivity and Year 1 Deliverability Study models being developed separately
  - Recommend not utilizing target areas
  - Considers impacts across planning processes
  - Requires continuing review for TS/GI impacts based on ITP assessment timelines
  - Requires some type of tariff, ITP Manual and/or working group waivers, as well as scope changes
  - *Other areas where stakeholders would like to see more detailed consideration?*

ITP REBASELINE

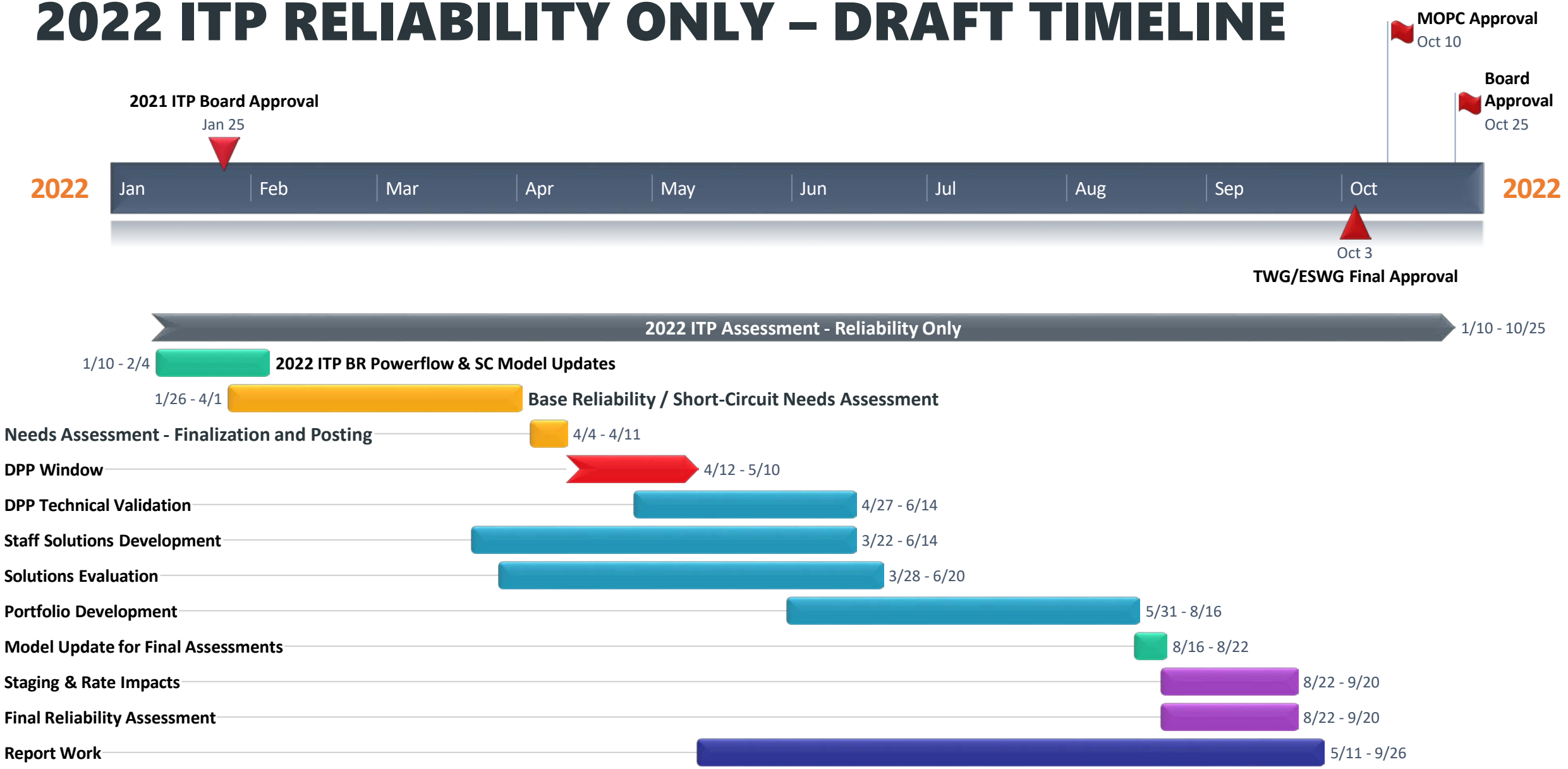
Plans for getting back on schedule with ITP assessments

- Perform 2022 ITP reliability only and full 2023 and 2024 ITP assessments
  - Address all NERC compliance planning requirements
  - Use most current data & better align 2023-2024 ITPs with original timeline
  - Enable 2023 ITP work to begin early and utilize 2022 ITP completed work
  - Start 2024 ITP scope early to address various methodology & ESWG action items
  - Better align ITPs with other planning studies to complete in time for transition to SCRIPT/CPPTF implementation

2022 ITP RELIABILITY ONLY STUDY

- Very similar to former ITP Near-Term studies
- Base reliability and short-circuit assessments only
  - No economic and policy assessments
  - No persistent operational assessments
  - No target areas
- FERC Order 1000 processes still in place
  - Detailed Project Proposal (DPP) submittal window
- Study Cost Estimates
- Rate Impacts, no benefit metrics
- Final Reliability Assessment – no other final assessments
- Report approval October 2022

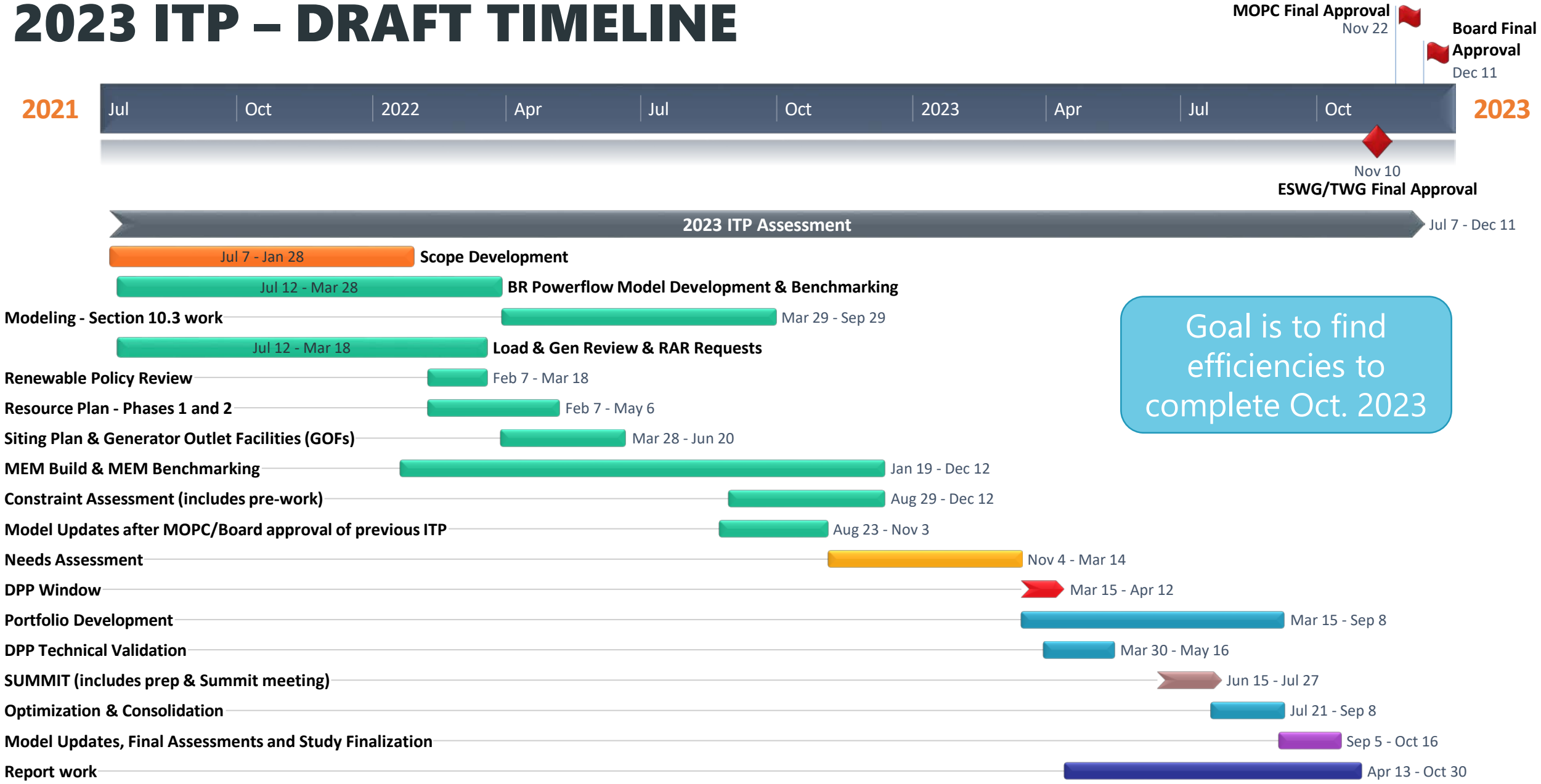
2022 ITP RELIABILITY ONLY – DRAFT TIMELINE



2023 ITP

- Use most current data & better align 2023-2024 ITPs with original timeline
- Enable 2023 ITP work to begin early and utilize 2022 ITP completed work
  - Staff is currently outlining plan for utilizing completed 2022 ITP market economic model (MEM) input work for the 2023 ITP
    - Details will be presented at March ESWG meeting

2023 ITP – DRAFT TIMELINE



Goal is to find efficiencies to complete Oct. 2023

NEXT STEPS


Present ITP rebaseline plan updates for review & feedback
Mar. 2022 TWG/ESWG
Apr. 2022 TWG/ESWG
Bring final ITP rebaseline plan for approval
April 2022 MOPC
Full ITP rebaseline plan for approval

SPP Southwest Power Pool

20-YEAR ASSESSMENT

SCOPE AND STUDY EXECUTION ACTION ITEMS

SHERRI MAXEY

FEBRUARY 2022

OVERVIEW

- Staff's Approach
- Action Items identified – Updates from January ESWG presentation shown in red
- Data source

STAFF'S APPROACH

- Purpose: Identify 20-Year Assessment scope and study execution items to be addressed with stakeholders
- Action: Take chronological approach by ITP study milestone
- Goal: Bring back 1-2 months prior to start of milestone work for stakeholder discussion and decision

ACTION ITEMS

ID	Description	Milestone(s)	Status Update
1	Load growth distribution and approach to non-conforming load (partial overlap with item 2)	Powerflow Models / Load Review	*Completed*
2	Implementing future drivers in generation and load review, and market economic model (MEM) <u>Supply side items</u>: ➢ Emissions target and gas retirements (F3/F4), modeling and monitoring ➢ Electric storage additions - transmission, energy or capacity asset, or all of the above? ✓ Distributed resource forecasts and modeling ✓ Fuel forecasts extrapolation and adjustments <u>Demand side items</u>: ✓ Load shape changes (will complete in MEM) ✓ General electrification (*e.g.*, 20YR - F3/F4) ✓ Electric vehicle growth and distribution ✓ Demand response ✓ Energy efficiency	Generation and Load Review / Resource Plan (RP2) / MEM	*In progress - partially complete:* ➢ Emission target and gas retirements (F3/F4), modeling and monitoring – *presented June 2021 ESWG; work in progress with goal to bring in Mar. 2022* ➢ Electric storage additions - transmission, energy or capacity asset, or all of the above? – *dependent on outcome of emissions item* *Completed:* ✓ Load shape changes *(2042 peak load values will be determined during MEM build)* ✓ General electrification ✓ Electric vehicle growth and distribution ✓ Demand response ✓ Energy Efficiency ✓ Fuel forecasts extrapolation and adjustments
3	Renewable policy extrapolation	Renewable Policy Review	*Completed*

ACTION ITEMS - CONTINUED

ID	Description	Milestone(s)	Status Update
4	Renewable pricing and PTC assumptions/expirations for new and existing units	Gen Review / RP2 / Siting	*Completed – related language added to 2023 ITP Scope*
5	Wind methodology for aging wind fleet (repowering assumptions)	Gen Review	*Completed*
6	Possible use of resource planning software in 20-Year Assessment; or should we adjust the traditional resource additions?	RP2	*In progress – presented at Nov. ESWG; bringing back to Feb. ESWG for approval*
7	Resource Plan strategy for renewables: • Renewable and storage ownership, and accreditation assignment; CT-to-CC ratio; and ELCC implementation • Renewable accreditation	RP2	*In progress – presented at Nov. ESWG; bringing back to Feb. ESWG for approval*
8	Identification of additional batteries beyond F1 and F2 scoped amounts (requires Scope change); including hybrid issues	RP2	*In progress – goal is Mar. ESWG*
9	External region resource plan and siting approaches	RP2	*Completed – considered complete once Item #13 was approved (using MTEP 21)*

ACTION ITEMS - CONTINUED

ID	Description	Milestone(s)	Status Update
10	Review 12% cap on renewables for reserve margin requirements	RP2	*Completed*
11	Determine resource addition strategy	Siting / Generator Outlet Facilities (GOFs) / Constraint Assessment	*In progress – goal is now Feb. ESWG*
12	EPRI transmission capacity hosting tool/SPP initiative for siting	Siting / GOFs / Constraint Assessment	*In progress – goal is now Feb. ESWG*
13	MTEP Futures compatibility (2022 ITP & 20YA)	External (Load & Gen Review / RP2 / Siting)	*Completed*
14	Hybrid Solar/Renewable and Battery Modeling and GI Surplus Capacity	Siting / MEM	*In progress – goal is now Feb. ESWG*
15	Generator outlet facilities (GOFs) decision on inclusion in 20-Year Assessment	GOFs	*Completed*
16	Constraint Assessment on each future; come up with EHV portfolio; monitor everything 100 kV and above? Bring methodology back for review.	Constraint Assessment	

ACTION ITEMS - CONTINUED

ID	Description	Milestone(s)	Status Update
17	20-Year objective function for developing portfolios by future • Approaches to non-SPP APC savings benefits (*e.g.*, SPP-Other, SPP economy export APC savings benefits to non-SPP regions) • Approach to seams issues and solutions	Portfolio Development	
18	HV and EHV needs versus HV and EHV solution tradeoffs	Portfolio Development	
19	Identification of sensitivities	Sensitivity Analysis	

20-YEAR MODELING DATA SOURCE

- For the 20-Year Assessment (20YA), staff will be utilizing the 2022 ITP as the base data source, as originally planned, in order to
  - Utilize the 2022 ITP work completed up to this point
  - Expedite the completion of the 20YA
  - Optimize time savings from ITP rebaseline effort to make progress on 2023 ITP & 20YA simultaneously prior to start of 2024 ITP

20-YEAR: RESOURCE PLANNING

- Use Resource Planning Software for all futures
- Further Research
  - ELCC implementation
  - Assigning Resource Plan units

SPP Southwest Power Pool

2022 ITP

2022 ITP SECTION 10.3 SPS TRANSFORMERS REQUEST

SUNNY RAHEEM

FEBRUARY 2022

OBJECTIVE

- Review SPS' submitted ITP Manual Section 10.3 change to the 2022 ITP models.
  - Planned Arteria and Roswell transformers replacements for 2022 ITP models
- Additional details from SPS
- Staff's 2022 ITP impact evaluation results

SECTION 10.3 REQUEST - SPS

- Request Summary
  - Updated Artesia and Roswell transformer information with planned replacement data
- Model Impact
  - Review of 2022 ITP reliability and economic model work completed to current day

SECTION 10.3 EVALUATION

- SPP assessed the schedule impacts to implement these changes as part of the 2022 ITP
  - Staff impacts are very minimal and do not adversely impact 2022 ITP schedule and milestones
- Aligns with 2021 ITP portfolio decisions around Artesia and Roswell upgrades

10.3 IMPLEMENTATION

- Staff implemented changes as part of proposed final 2022 ITP base reliability models

SPP Southwest Power Pool

2023 **ITP**

RENEWABLE POLICY REVIEW

KRISHADA WATSON

FEBRUARY 2022

OBJECTIVE

- Review Renewable Policy Review methodology

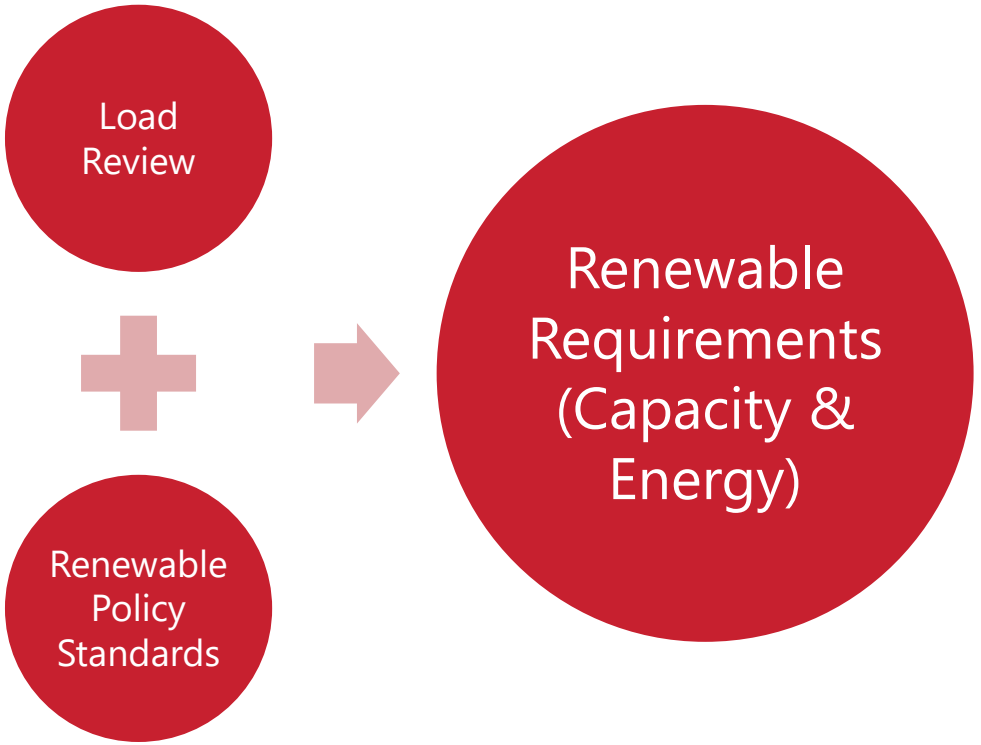
RENEWABLE POLICY STANDARDS FOR 2023 ITP

- States within SPP not included in this table are presumed to have no RPS requirement
- A generation type of "Both" indicates that it can be met by wind and/or solar

State	RPS Type	Generation Type	Capacity- or Energy- Based	Year 5 %	Year 10 %
Kansas	Goal	Both	Capacity	20	20
Minnesota	Mandate	Both	Energy	25	25
Missouri	Mandate	Both	Energy	15	15
North Dakota	Goal	Both	Energy	10	10
New Mexico	Mandate	Both	Energy	40	50
South Dakota	Goal	Both	Energy	10	10
Texas	Mandate	Both	Capacity	5	5

METHODOLOGY

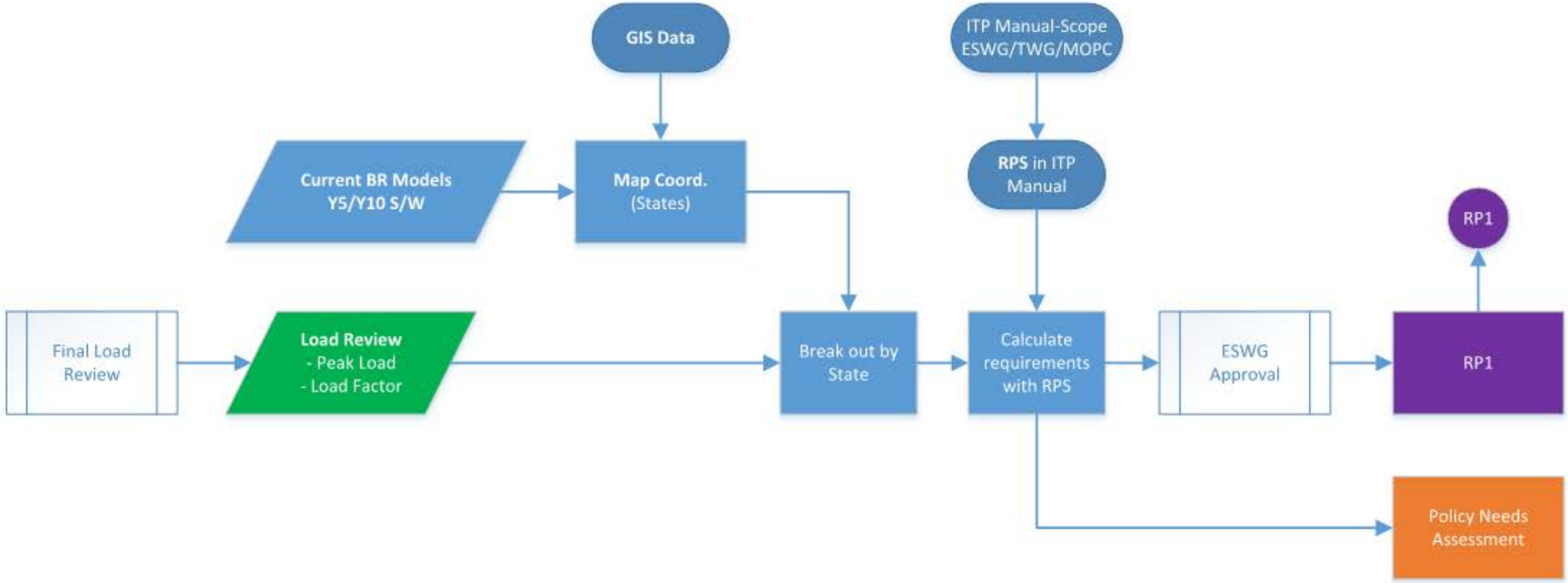
- Based on the finalized load forecast



2023 **ITP**

APPENDIX

HIGH-LEVEL OVERVIEW OF THE PROCESS



FULL ITP MANUAL LANGUAGE ON RENEWABLE POLICY REVIEW

2.2.1.3 Renewable Policy Review

After the forecasted load is finalized, renewable policy standards (RPS) will be assessed for utilities within the SPP footprint. The percentages in Table 3 will be used to calculate the mandate or goal for each utility residing in the listed states with respect to the load submitted as part of the SPP annual data request. For those utilities that span multiple states, the approved powerflow models and geographical information system (GIS) data will be used to calculate each utility's load obligation in the corresponding state for purposes of calculating mandates and goals.

The values in Table 3 consider forward-looking legislation set by the states that either should be or must be met, depending on the state, in each of the study years. A generation type of "both" indicates the mandate or goal can be met by either wind or solar generation in the study. Both capacity- and energy-based mandates and goals will be assessed for fulfillment during development of the resource plan. Those that are energy-based also will be assessed during the policy needs assessment. States within the SPP footprint that are not included in Table 3 do not have RPS requirement for the purposes of this renewable policy review.

Renewable energy credits will be accommodated appropriately as provided to SPP.

If any significant changes to renewable mandates or goals occur during an ITP assessment, SPP stakeholders can bring them to the ESWG for review and potential approval for use in the ITP assessment. If exemptions to the mandates or goals are allowed (e.g. the applicable technology is cost prohibitive or municipals are exempt), those exemptions will be considered as SPP is notified during the renewable policy review.

Any resulting deviations from the standard values in Table 3 will be noted in the study report.

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SPP Southwest Power Pool

2023 **ITP**

RESOURCE PLAN PHASE I

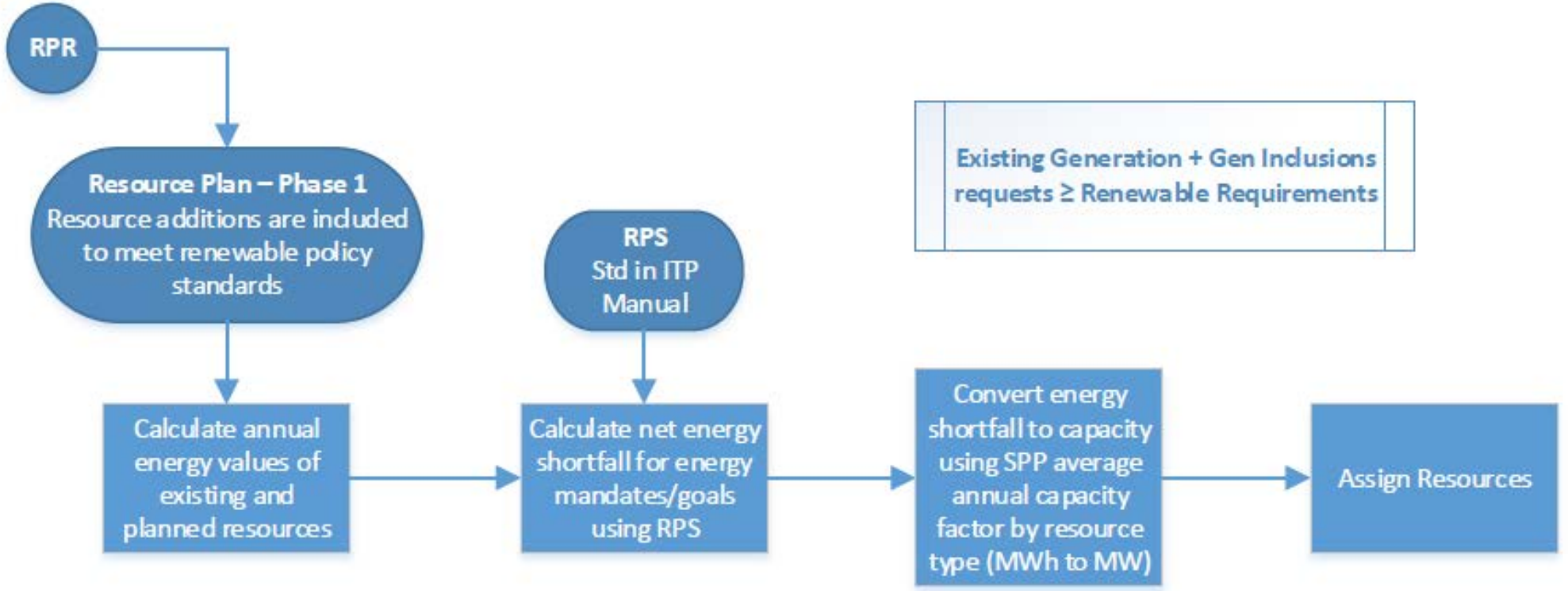
KRISHADA WATSON

FEBRUARY 2022

OBJECTIVE

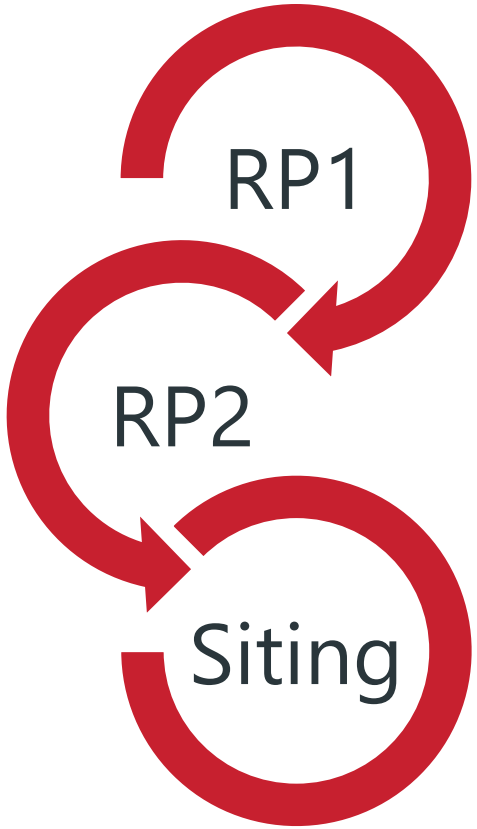
- Review Resource Plan Phase I (RP1) methodology

HIGH-LEVEL OVERVIEW OF THE PROCESS



DIRECTLY IMPACTED MILESTONES

- Resource Plan Phase II
- Siting Plan



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