MINNESOTA
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date	September 4, 2025		**Agenda Item **4**
Company	Southern Minnesota Municipal Power Agency (SMMPA or the Agency)		
Docket No.	ET9/RP-24-356		
	In the Matter of Southern Minnesota Municipal Power Agency's 2025-2039 Integrated Resource Plan		
Issues	Should the Commission accept SMMPA's 2025-2039 Integrated Resource Plan?		
	Should the Commission's adopt the Department of Commerce's June 26, 2025, recommendations?		
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✓ **Relevant Documents**	**Date**
Southern Minnesota Municipal Power Agency, Initial Filing	October 25, 2024
Southern Minnesota Municipal Power Agency, Compliance Filing (Public and Non-Public)	November 26, 2024
Department of Commerce, Comments	March 26, 2025
Southern Minnesota Municipal Power Agency, Comments	May 29, 2025
Department of Commerce, Supplemental Comments	June 26, 2025
Southern Minnesota Municipal Power Agency, Answer to PUC IR #1	July 8, 2025

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STATEMENT OF THE ISSUES

Should the Commission accept SMMPA's 2025-2039 Integrated Resource Plan?

Should the Commission's adopt the Department of Commerce's June 26, 2025, recommendations?

BACKGROUND

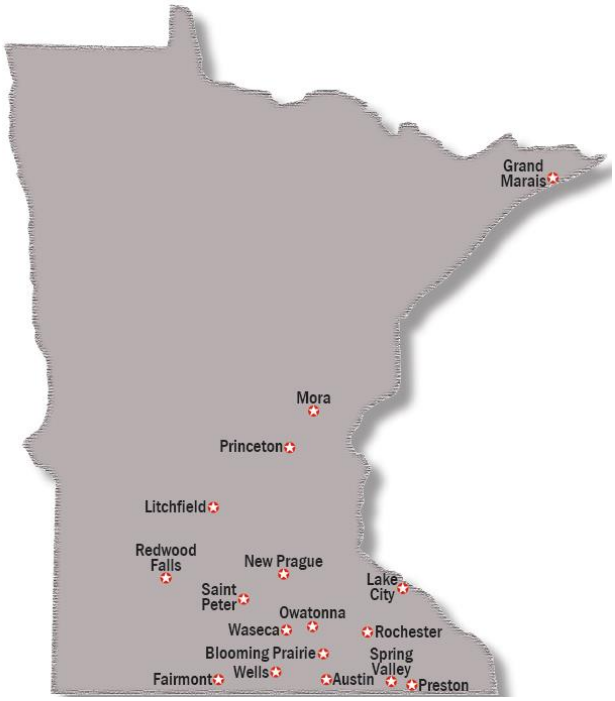
I. Agency Background

Southern Minnesota Municipal Power Agency (SMMPA) is a municipal joint action agency serving 17 municipal utilities in Minnesota. The Agency provided the following background:

> SMMPA is one of several joint action agencies in Minnesota, including Central Minnesota Power Agency/Services, Minnesota Municipal Power Agency, Missouri River Energy Services, and Northern Minnesota Municipal Power Agency. Services provided by SMMPA, and other joint action agencies, are equivalent to services provided to distribution cooperatives by generation and transmission cooperatives such as Great River Energy (GRE).[1]

Figure 1 is a map of SMMPA's service footprint, which is comprised of approximately 130,000 customers across its 17 member utilities.

Figure 1. Map of SMMPA's Service Territory



[1] Petition, p. 1-4.

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SMMPA's resource decisions and electric rates are managed and approved by the Agency's Board of Directors, which is comprised of representatives from seven member cities. As such, pursuant to Minn. R. 7843.0500, subp. 3 and Minn. Stat. § 216B.02, subd. 4, the Commission's role in resource planning for a municipality or a cooperative electric association such as SMMPA is advisory.

II. Existing Resources

Figure 2 shows SMMPA's current generation capacity portfolio by resource type. Staff notes that all of SMMPA's coal is generated by Sherco Unit 3 (Sherco 3), located in Becker, Minnesota.

Figure 2. 2023 Capacity Mix

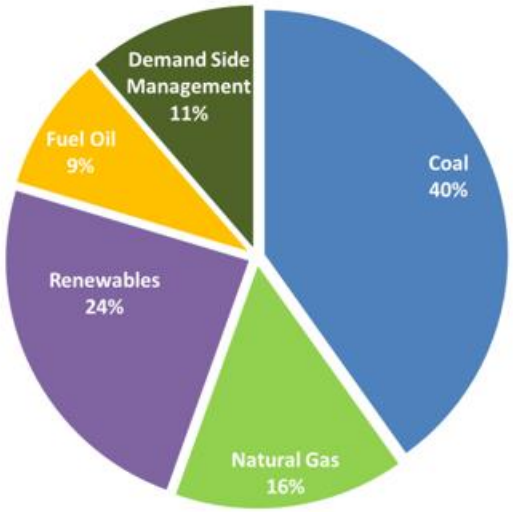

Figure 3 shows a combination of Agency resources and market purchases used to meet SMMPA's energy needs in 2023, including energy savings.[2] Staff notes that, while natural gas represents a sizable share of SMMPA's capacity mix, natural gas produces a small amount of SMMPA's energy. This is largely because most of the natural gas facilities on SMMPA's system are member-owned, dual fuel, natural gas/diesel units which generally only operate during extreme conditions.

[2] SMMPA noted that it does not run its own generation to serve its load. Instead, the Agency offers all of its generating resources into the MISO market. The generation is dispatched by MISO based on economics and operational needs of the entire MISO system, without direct consideration of SMMPA's load requirements. The Agency, in turn, purchases all of the energy needed to serve its members' load from the MISO market.

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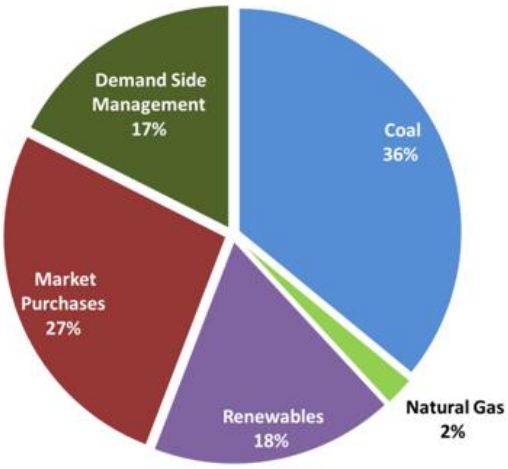
Figure 3. 2023 Energy Mix



A. Supply-Side Resources

SMMPA and its members operate entirely within the MISO footprint, and as a MISO member, SMMPA is required to own or control sufficient generating capacity to serve its forecasted load, plus a MISO-prescribed reserve requirement. In previous IRPs, SMMPA has planned generation additions based on summer peak load requirements; however, due to MISO's transition to a seasonal capacity construct, in this IRP, SMMPA plans to meet MISO's planning reserve margin (PRM) requirements in each season.

1. Coal (Sherco 3)

Sherco 3 is a pulverized-coal steam unit that began commercial operation in 1987. SMMPA owns 41% (359 MW) of the facility, while Xcel Energy owns 59%. Xcel operates and maintains the unit on behalf of both owners.

2. Natural Gas/Fuel Oil

SMMPA has approximately 65 MW of natural gas-fired, intermediate capacity on its system. Roughly 40 MW of this total comes from the Owatonna Energy Station (Units 1-4), and 25 MW comes from the Fairmont Energy Station (Units 1-4). Owatonna began commercial operation in March 2018. Fairmont was an addition to an existing diesel power plant that began operating as an intermediate unit in 2013.

According to SMMPA, Owatonna and Fairmont are valuable, highly-efficient facilities, which can be started and change output levels quickly. Moreover, they can be used to balance the variable output of wind and solar generation in the region.

SMMPA has approximately 161 MW of peaking thermal capacity on its system, which is largely comprised of member-owned diesel and dual-fuel (natural gas and diesel) units contracted for by the Agency. While these units do not operate frequently, SMMPA emphasized their importance as follows:

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> These units have also proven to be important emergency generators for the grid in extreme weather events and system emergencies. During the polar vortex event in 2019 and winter storm Uri in 2021, these units were called upon by MISO and ran for multiple days consecutively. Because many of these units can be run on straight diesel fuel oil which is stored on site, they are able to continue running and provide grid support when natural gas supplies may be curtailed. Under normal conditions, these units run very little and therefore contribute very little to overall emissions, but they serve critical functions for member communities and the grid in times of emergencies.[3]

3. Renewable Energy

SMMPA has approximately 217 MW of renewable energy on its system. The largest renewable resources on SMMPA's system, by far, are the 100.5 MW Wapsipinicon Wind Farm located near Dexter, Minnesota, and the 100 MW Stoneray Wind Farm in southwestern Minnesota.

Staff notes that Wapsipinicon Wind is a 20-year power purchase agreement (PPA) that was executed in 2009 and expires in 2029. Because, in general, IRPs assume that PPAs are not renewed, SMMPA assumes that Wapsipinicon Wind will not be on its system after 2029. However, the Commission may consider the possibility that it could be a potential resource into the 2030s. (The Stoneray PPA was signed in 2020, so it continues throughout the planning period.)

In May 2016, SMMPA made its first investment in large-scale solar generation by executing a 20-year agreement with Lemond Solar Center, LLC, to purchase all output from the 5 MW Lemond Solar Center. Lemond Solar came online in June 2017 and is located on approximately 35 acres on the western edge of Owatonna, Minnesota.

SMMPA purchases methane gas from a 1.6 MW Methane-to-Electricity Facility under a 20-year agreement with the East Central Solid Waste Commission (ECSWC), and in partnership with the City of Mora. The facility is located on a landfill near Mora, Minnesota, in Kanabec County. It has been commercially operational since April 2012, and SMMPA assumes for planning purposes that the PPA will expire in 2032.

4. Demand-Side Resources

SMMPA explained that its member utilities have collectively exceeded the Conservation Improvement Program (CIP) savings goal of 1.5% and the CIP spending requirement every year except the last two; moreover, as of the time of filing the Petition, the Agency was on track to do so again in 2024. From 2010-2023, SMMPA's average annual CIP energy savings was 1.73%, and their average CIP spending was 2.52% over that same period.

[3] Petition, p. 4-5.

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SMMPA achieves peak demand savings from a combination of conservation programs, member direct load control, energy management program savings, and other peak shaving programs. Currently, SMMPA has approximately 32 MW of peak demand savings. SMMPA's forecasted peak demand savings drops to approximately 21 MW of peak demand savings after the assumed departure of Austin Utilities and Rochester Public Utilities in 2030.

PREFERRED PLAN SUMMARY

As SMMPA discussed in its last IRP,[4] in February 2020, the Agency announced a new strategic initiative, referred to as "SMMPA 2.0," which plans to retire its share of Sherco 3 in 2030 and replace the capacity and energy with wind and solar generation. The instant IRP builds off that initiative, and SMMPA's "Preferred Plan" – i.e., its proposed expansion plan – adds 225 MW of solar generation and 50 MW of wind, beginning in 2031. Prior to 2030, the Preferred Plan adds approximately 55 MW of conventional dual fuel generation and 14 MW of small diesel generators located in member communities.

Additionally, SMMPA will continue to rely on existing resources, such as its Fairmont Energy Station and Owatonna Energy Station natural gas facilities, and continue to contract with its members for use of their diesel and dual fuel generators.

SMMPA cited significant changes in both MISO's capacity construct and methodology for accrediting capacity as challenges in system planning. For instance, SMMPA noted:

> [I]n the fall of 2022, MISO changed from an annual capacity construct to a seasonal one. Each of the four seasons has a unique Planning Reserve Margin Requirement (PRMR) or an increment of accredited generating capacity a utility must have above its seasonal peak load forecast. For MISO's 2024/25 Planning Year, the PRMRs range from a low of 9 percent in summer to a high of 27.4 percent in winter.
>
> In addition to moving to seasonal requirements, MISO has also made significant changes to how it accredits generating capacity. The changes effectively reduce the amount of credit given to existing and new-generation resources. MISO has proposed additional changes to be effective beginning in Planning Year 2027/28 that will further reduce accreditation.[5]

After incorporating MISO's changes into its planning, SMMPA expects its largest capacity shortfall to occur during the winter season, rather than previous IRPs where the capacity need occurred in the summer. However, SMMPA believes its Preferred Plan can meet MISO's seasonal capacity requirements, member load requirements, and Minnesota's Eligible Energy

[4] Docket No. ET9/RP-21-782.

[5] Petition, p. 1-1.

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Technology Standard (EETS) and Carbon-Free Standard (CFS) throughout the planning period.

Finally, Staff notes that SMMPA's IRP and the development of the Preferred Plan assumed the expiration of power sales contracts with two members, Austin Utilities and Rochester Public Utilities, in 2030. Austin and Rochester have Contract Rates of Delivery (CROD) of 70 MW and 216 MW, respectively. The assumed expiration of these power sales contracts coincided with the retirement of Sherco 3, which meant SMMPA would only need to replace approximately 70 MW of its 360 MW share of Sherco 3. However, in August 2024, Austin elected to renew their contract, adding back 70 MW to SMMPA's resource obligation.

Staff notes that, since many of the tables and figures shown in the Petition assumed the expiration of Austin's load, Staff requested the Agency update four of the tables and figures showing:

- Base Case Net IMS Energy and Peak Demand;
- Resource and Capacity Requirements – Before Additions;
- Resource and Capacity Requirements – Preferred Plan; and
- Percent Carbon Free – Generation and Load.

In these briefing papers, Staff will note which tables assume the extension of Austin's load and which assume the expiration of Austin's load.

RESOURCE NEEDS

Figure 4 shows the Agency's capacity position over the planning period. SMMPA's resource need (shown by the yellow bars) is approximately 40-60 MW in the near-term. However, once Sherco 3 retires in 2030 (shown by the black bar), SMMPA's need increases significantly, up to roughly 130 MW in 2031. Due to minimal forecasted growth in peak demand, SMMPA's need stays roughly at that 130 MW level over the remainder of the 2030s. This calculation incorporates the update that Austin extended its power sales agreement with SMMPA to 2050.

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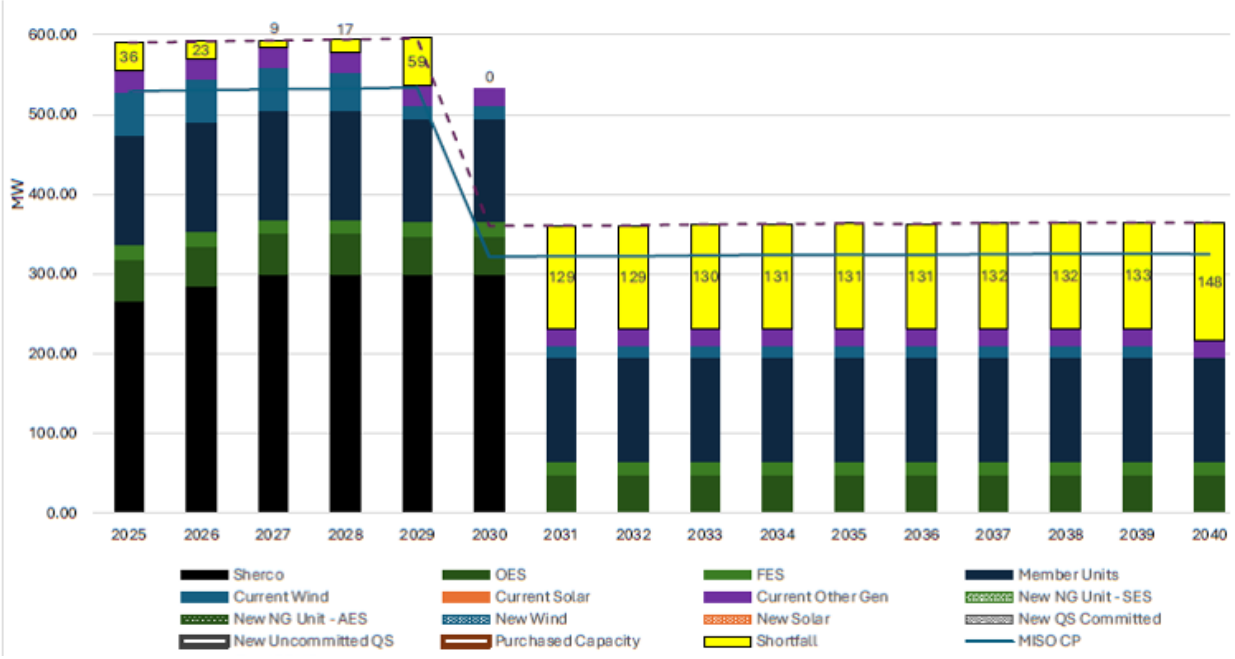
Figure 4. Resource and Capacity Requirements – Before Additions (Includes Austin Utilities)



The next section will discuss SMMPA's forecasting process, its forecasted demand and energy requirements, and the Department's comments on SMMPA's forecast.

I. Forecast

A large part of developing a resource plan involves first forecasting demand and energy requirements. SMMPA's forecasting process begins with a forecast of retail energy sales by major customer classification across SMMPA's members.[6] Various adjustments, such as distribution losses and the impact of DSM conservation programs, are also incorporated.

The Petition describes, in thorough detail, the forecast equations and resulting projections for the residential, commercial, and industrial classes. In short, SMMPA outlined a four-step forecasting process:

1. **Forecasting annual retail load served across the members:** This combines forecasts of residential customer counts and average energy use and adds the resulting estimate to similar forecasts of total retail sales to commercial and industrial customers and other customers.

2. **Adjusting for distribution losses:** This, combined with Step 1, yields total delivered

[6] SMMPA's load forecast for this IRP was developed by nFront Consulting LLC, who worked in conjunction with the Agency and its members.

energy requirements.

3. **Allocation of total delivered energy requirements:** Energy requirements are allocated to members based on "Ratio Forecasts," which are separate econometric forecasts of total delivered energy requirements for each member.

4. **Contributions to SMMPA's peak:** The contribution of each member's load to SMMPA's peak demand (i.e., coincident peak) is based on an econometric forecast of load factor, combined with the forecasted member energy requirements.

SMMPA explained that its peak load and energy sales have been relatively flat for the last several years:

> Load growth on the SMMPA system continues to be low. The primary drivers for this are the considerable success of the Agency and its members with demand side management and conservation (DSM) programs and modest economic growth.[7]

The IRP forecast, therefore, reflects a modest projected increase in peak demand and energy requirements of 0.3% per year. Table 1 shows SMMPA's growth rates of energy and peak demand requirements for the five-year action plan and the long-term plan.

Table 1. Energy and Peak Demand Growth Rates

Compound Avg. Growth Rates	Energy	Peak Demand
2024-2029	0.3%	0.2%
2031-2038	0.3%	0.3%

Total energy and demand requirements are shown in Table 2. For space, Staff presents the data in three-year increments. Staff also notes that the decrease in 2031 is due to the expiration of Agency's power sales agreement with Rochester Public Utilities (the extension of Austin's load is included).

Table 2. Base Case Net IMS Energy and Peak Demand (Includes Austin Utilities)

Year	Energy (MWh)	Peak Demand (MW)
2025	2,917,574	563.1
2028	2,954,947	566.4
2031	1,752,171	354.1
2034	1,764,722	356.9
2037	1,775,658	359.1

[7] Petition, p. 1-2.

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As noted above, the load forecast incorporates several adjustments, two of which include DSM and electric vehicle (EV) adoption for light duty vehicles. Regarding conservation, SMMPA noted that its average annual CIP energy savings from 2010-2023 was 1.73%, and the Agency's goal is at least 1.5% of total retail energy savings in each year of the planning period. However, SMMPA noted several challenges that could make this difficult:

> [T]he current energy efficiency environment is rapidly evolving in ways that will continue to present new challenges to meeting the CIP savings goals over the 15-year planning period. Changing baselines, new efficiency codes and standards, uncertain economic conditions, and decreased opportunities with certain technologies, will all impact SMMPA's ability to meet those savings goals.[8]

For EVs, Table 3 shows SMMPA's assumptions used to create an EV adjustment. The table includes estimates of EV counts, total charging energy, and annual coincident peak demand impacts over a historical and forecast period.

Table 3. Electric Vehicle Forecast Assumptions

	Year	EV Penetration (%)	EV Stock (#)	Charging Energy (MWh)	Peak Demand (MW)
Historical	2014	0%	105	418	0
	2018	0.1%	286	1,144	0.1
	2022	0.3%	1,052	4,208	0.4
Projected	2023	0.5%	1,344	5,376	0.5
	2030	1.3%	3,405	13,619	1.4
	2040	2.5%	6,833	27,331	2.7

In the economic modeling, SMMPA also ran High and Low scenarios against the Base Case forecast. Table 4 shows the relative differences, in both MW and percentage terms, of the High and Low Scenarios as compared to the Base Case:

Table 4. Changes to Base Case Forecast for High/Low Scenarios

		Change from Base, in MW	Change from Base, in %
By 2029	High	+36 MW	+7%
By 2029	Low	-21 MW	-4%
By 2034	High	+45 MW	+17%
By 2034	Low	-23 MW	-9%

[8] Petition, p. 5-6.

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SMMPA explained that the changes to the High and Low scenarios are non-symmetrical because "the Base Case reflects somewhat less optimistic projections of economic and demographic growth across SMMPA's members' service areas than the consensus, which forms the basis of the high and low bounds of the confidence interval."[9]

II. Department Comments on Forecasting

Forecasting is not a disputed issue in this IRP. While the Department did not conduct a formal review of the Agency's demand and energy forecasts, the Department concluded that, given SMMPA's relatively small near-term capacity needs, the Agency's range of forecasts should cover any issues that the Department would have discovered. In addition, any significant forecast errors can be addressed in future IRPs. Thus, the Department recommends that the Commission accept SMMPA's energy and demand forecast.

ECONOMIC MODELING

The Agency used a detailed hourly production cost model, the AURORAxmp Electric Market Model (Aurora), to evaluate its resource needs and alternatives in this IRP. SMMPA described the Aurora model as follows:

> The Aurora model is designed to mimic the way in which the Midcontinent Independent System Operator (MISO) operates. The model dispatches all utility generating assets into a Locational Marginal Price (LMP) market independent of utility load. Each generator is then paid the hourly LMP price for its energy. The model then serves the utility load requirements from the MISO pool of energy, not specific generators, for which the utility pays MISO the hourly LMP price.
>
> The model will sum the 8760 hours for each year to determine the total annual revenue received from MISO for all generating assets and the total annual expense paid to MISO for serving all utility load requirements.
>
> The model also determines if there is enough total generating capacity to serve the peak demand plus reserve requirements every year. When the model encounters a year with insufficient reserves, it will choose additional generation from a pool of resource options. The model searches for the lowest overall cost resource option by performing multiple iterations using each resource option until it achieves the lowest overall cost.[10]

[9] Petition, p. 3-18.

[10] Petition, p. 2-1.

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I. Preferred Plan

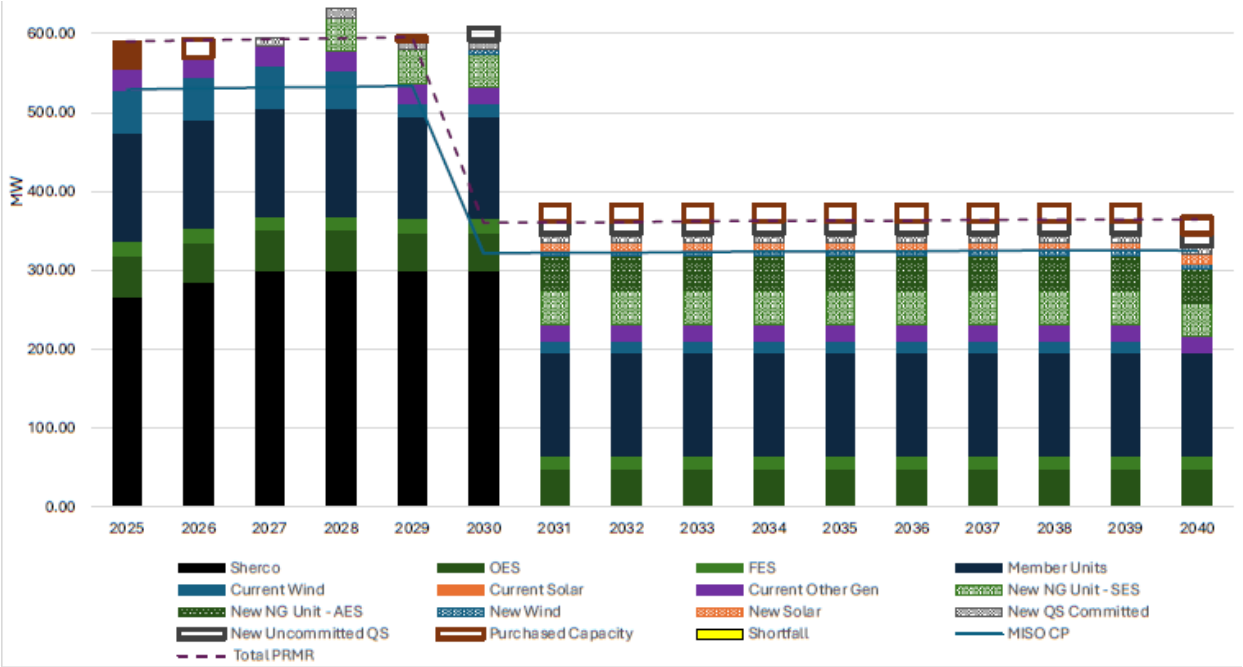
A. Expansion Units

As noted above, the Preferred Plan proposes 55 MW of conventional dual fuel generation and 14 MW of small diesel generators located in member communities prior to 2030. However, Staff notes that Aurora does not dispatch these units frequently, and they would primarily be run during peak and emergency situations. Therefore, the dispatchable units have virtually no impact on the Agency's percentage of carbon-free energy generated. SMMPA also noted that "[s]ome of this conventional generation may be offset by the addition of small battery installations at strategic locations."[11]

In the longer-term (after 2030), SMMPA plans to add 225 MW of solar and 50 MW of wind, which coincides with the retirement of Sherco 3.

Importantly, all modeling scenarios assumed that Sherco 3 retires at the end of 2030, which results in a loss of approximately 365 MW of MISO-accredited capacity; moreover, all modeling scenarios assumed the loss of more than 280 MW of load due to the departure of the Rochester and Austin in 2030. However, as noted previously, Austin and SMMPA agreed to extend their power sales agreement to 2050, which adds 70 MW to SMMPA's base case resource obligation. SMMPA plans to address this additional load through capacity purchases. Austin's additional load and SMMPA's capacity purchases are reflected in Figure 5 below.

Figure 5. Resource and Capacity Requirements – Preferred Plan (Includes Austin Utilities)



[11] Petition, p. 1-3.

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B. Demand-Side Management (DSM)

Staff's Table 5 below is a truncated version of SMMPA's Table 5-1 of the Petition. SMMPA's table provides several categories of historical and forecasted CIP costs and savings, including annual incremental savings, percent CIP savings, percent CIP spending, aggregated savings, first-year costs, and lifetime costs in each year from 2010-2039. Staff's Table 5 shows only annual incremental savings, percent CIP savings, percent CIP spending, and lifetime costs per MWh, and only in five-year increments from 2010-2039. As shown, SMMPA forecasts 1.5% energy savings per year. The decrease in annual incremental savings is due to the removal of Austin Utilities and Rochester Public Utilities.

Table 5. 2010-2039 Historical and Projected DSM Costs and Savings

	Year	Annual Incremental Savings (MWh)	% CIP Savings	% CIP Spending	Lifetime Cost per MWh
Actual	2010	49,674	1.7%	3.08%	$12.42
	2015	43,009	1.5%	2.66%	$15.15
	2020	48,411	1.7%	2.34%	$12.18
Forecast	2025	42,020	1.5%	2.20%	$12.67
	2030	25,245	1.5%	2.33%	$12.74
	2035	20,156	1.5%	2.52%	$12.60
	2039	20,401	1.5%	2.67%	$12.53

For demand savings, SMMPA's Table 5-2 shows the historical and projected impact of incremental conservation savings, incremental member direct load control, incremental energy management program savings, and other peak shaving programs on the total incremental peak demand savings. Staff's truncated Table 6 shows only the total annual incremental peak demand savings used in the IRP modeling, and only in five-year increments. The reduction in projected peak demand savings beginning in 2030 is due to the removal of Austin Utilities and Rochester Public Utilities.

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Table 6. 2010-2039 Historical and Projected DSM Demand Savings

	Year	Total Annual Incremental Peak Demand Savings (MW)
Actual	2010	48.1
	2015	29.2
	2020	28.4
Forecast	2025	32.2
	2030	20.8
	2035	20.9
	2039	20.9

II. Economic Modeling

A. Scenario Analysis

SMMPA designed seven different base case alternatives for its Aurora modeling. These base case alternatives are designated as cases P1 through P7. The "Optimal Case" (P1) was developed by performing a long-term optimization run in Aurora. Notably, the Optimal Case was the lowest-cost option among the seven base case scenarios, as well as the least-cost plan in 10 of the 13 sensitivities. Importantly, however, as Staff will discuss in more detail below, SMMPA did not select the Optimal Case as its Preferred Plan; rather, SMMPA selected the "80% Carbon Free in 2031 scenario," also referred to as "Case P3."

Staff's Table 7 below is an excerpt of SMMPA's Table 7-1a of the Petition; it compares 2031 resource additions – that is, post-Sherco 3 retirement – and the net present values (NPV) of each of the seven base cases (P1, P2, P3, and so on). Again, P1 is the least-cost, Optimal Case, and it added 70 MW of natural gas units and 14 MW of oil-fired diesel units in 2031. However, the Optimal Case did not choose any new renewable generation, and about half of SMMPA's CFS requirements were met with existing generation and by purchasing renewable energy credits (RECs). In part for this reason (as well as others discussed below), SMMPA chose P3, "80% Carbon-Free," as its Preferred Plan. Staff outlined P3 with a red box to show the 2031 resource additions and the costs relative to the Optimal Case. Note that P3 adds 50 MW of new wind and 225 MW of new solar; however, as shown by the bottom row, P3 is approximately $91.6 million more expensive than the Optimal Case (P1).

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Table 7. Expansion Units by Base Case Alternative

2031 Additions	Optimal Case (Base)	60% Carbon Free in 2031 60 Solar/40 Wind	80% Carbon Free in 2031 60 Solar/40 Wind	Renewable Only Option (166% CF)	80% CF Capacity Only Battery Sherco Site	80% CF Capacity Only Battery Member Site	80% Carbon Free NREL Battery
Case #	P1	P2	P3	P4	P5	P6	P7
New Gas (MW)	70	65	55			49	
New Oil (MW)							
New QS (MW)	14	14	14			14	
New Wind (MW)			50	500	50	50	50
New Solar (MW)		175	225		225	225	225
New Battery (MW)					90	10	90
Base Case	IRP1	IRP2	IRP3	IRP4	IRP5	IRP6	IRP7
Accumulated NPV 2050	1,448,285	1,508,357	1,539,887	1,593,798	1,545,916	1,545,155	1,587,857
(Better)/Worse from "Base"	-	60,072	91,602	145,513	97,631	96,870	139,572

While the Optimal Case *can* meet Minnesota's CFS requirements, as noted above, it does so with existing generation and REC purchases. P3 ("80% Carbon Free"), on the other hand, while roughly $91 million more expensive, meets the CFS with new renewable energy, which SMMPA views as beneficial for three main reasons:

1. Alignment with its "SMMPA 2.0" goal of 80% carbon-free after Sherco 3 retires;

2. Reduced financial risks associated with relying too heavily on the REC market; and

3. Providing a physical asset hedge against MISO market prices that is not present in the Optimal Case.

Next, Staff briefly summarizes some characteristics of the remaining unselected scenarios, P2 and P4-P7:

- P2 - "60% Carbon Free" is the second most-economical alternative at approximately $60 million more expensive than the Optimal Case. However, P2 does not meet the Agency's "SMMPA 2.0" goal of 80% renewable after the retirement of Sherco 3.

- P4 - "Renewable Only" Case is less expensive than the Preferred Case in certain scenarios, but the Agency chose not to pursue this option because it produces excessive amounts of unhedged energy.

- P5-P7 explore battery technology. P5 and P7 were run to identify the cost impacts associated with replacing all of the conventional dispatchable generation in the Optimal Case with battery storage. Specifically, P5 includes a 90 MW battery that provides capacity value in the MISO market, but no energy value. P7 includes a 90 MW battery that provides both capacity and energy value, which comes at a significantly higher capital cost than the P5 battery. P6, "80% Carbon Free, Capacity Only Battery, Member Site," experimented with battery storage in smaller amounts. None of the battery

scenarios were least-cost under any sensitivity.

B. Base Case Assumptions

All 7 base case scenarios modeled in Aurora used the following assumptions:

- Retirement of Sherco 3 at the end of 2030.
- Expiration of the power sales contracts of Rochester Public Utilities and Austin Utilities with the Agency on March 31, 2030.
- Expiration of the 100.5 MW Wapsipinicon Wind PPA in 2029.
- Retirement of the six Agency-owned wind turbines in 2025 (8.6 MW).
- Expiration of the Olmsted County Waste-to-Energy Facility contract in 2030.
- Retirement of the 1.6 MW Mora landfill gas generator in 2032.
- Continuation of SMMPA's contracts with member-owned natural gas, diesel, and dual fuel generating units.
- Capacity reserve margins, based on MISO's 2024/25 Planning Year requirements, of:
    - 9.0% for the summer season,
    - 14.2% for the fall,
    - 27.4% for the winter, and
    - 26.7% for the spring.
- The environmental externalities values established in the Commission's June 16, 2017, Order in Docket No. 14-643.
- A downward adjustment to the MISO UCAP[12] rating for each generator in 2028, which reflects MISO's transition to a Direct Loss of Load (DLOL) resource accreditation methodology.
- A seasonal solar accreditation of 36% in the summer and 2% in the winter, based on MISO's December 2023 Attributes Roadmap.
- A seasonal wind accreditation of 12% in the summer and 14% in the winter, based on MISO's December 2023 Attributes Roadmap.

[12] UCAP is Unforced Capacity, or generation capacity after considering a forced outage rate.

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SMMPA also noted that all scenarios meet the Agency's CFS requirements through mixtures of resource additions and REC purchases.

C. Sensitivities

SMMPA explained that many factors can lead to deviations from the base case assumptions, so several sensitivities were evaluated to determine various impacts on the 7 base case alternatives. These included:

- +/- 50% (High/Low) REC costs
- +/-50% (High/Low) locational marginal prices (LMP)
- +/-50% (High/Low) LMP + 50% natural gas prices
- +/-5% load forecast
- +25% High load forecast (New Member Scenario)
- High externality costs
- High/Low renewable contract prices

Table 8 below is the complete version of Table 7 above. In addition to showing the 2031 resource additions and NPV comparisons across the base cases, Table 8 compares the NPV of the sensitivities. The gold-shaded boxes reflect the least-cost plan under each sensitivity. Some takeaways from the table include:

- P1 is least-cost under most sensitivities.
- P2, or 60% Carbon-Free, is least-cost under the High LMP sensitivity.
- P4, the Renewable-Only Option, is least-cost under two conditions: (1) High LMPs + High Natural Gas and (2) Low Renewable PPA. However, as Staff noted previously, SMMPA chose not to pursue P4 due to the excessive amounts of unhedged energy.

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Table 8. Base Case and Sensitivity Analysis at Normal Loads

2031 Additions	Optimal Case (Base)	60% Carbon Free in 2031 60 Solar/40 Wind	80% Carbon Free in 2031 60 Solar/40 Wind	Renewable Only Option (166% CF)	80% CF Capacity Only Battery Sherco Site	80% CF Capacity Only Battery Member Site	80% Carbon Free NREL Battery
Case #	P1	P2	P3	P4	P5	P6	P7
New Gas (MW)	70	65	55			49	
New Oil (MW)							
New QS (MW)	14	14	14			14	
New Wind (MW)			50	500	50	50	50
New Solar (MW)		175	225		225	225	225
New Battery (MW)					90	10	90
Base Case	IRP1	IRP2	IRP3	IRP4	IRP5	IRP6	IRP7
Accumulated NPV 2050	1,448,285	1,508,357	1,539,887	1,593,798	1,545,916	1,545,155	1,587,857
(Better)/Worse from "Base"	-	60,072	91,602	145,513	97,631	96,870	139,572
High REC Prices - 50% High	IRP1	IRP2	IRP3	IRP4	IRP5	IRP6	IRP7
Accumulated NPV 2050	1,465,995	1,517,221	1,542,051	1,569,779	1,548,080	1,547,319	1,590,021
(Better)/Worse from "Base"	-	51,226	76,056	103,785	82,085	81,324	124,027
Low REC Prices - 50% Low	IRP1	IRP2	IRP3	IRP4	IRP5	IRP6	IRP7
Accumulated NPV 2050	1,430,576	1,499,493	1,537,724	1,617,816	1,543,753	1,542,992	1,585,694
(Better)/Worse from "Base"	-	68,917	107,148	187,240	113,176	112,415	155,118
High LMPs - 50% High	IRP8	IRP9	IRP10	IRP11	IRP12	IRP13	IRP14
Accumulated NPV 2050	1,511,681	1,507,531	1,510,281	1,540,365	1,562,552	1,520,575	1,584,852
(Better)/Worse from "Base"	-	(4,150)	(1,400)	28,684	50,871	8,894	73,171
Low LMPs - 50% Low	IRP15	IRP16	IRP17	IRP18	IRP19	IRP20	IRP21
Accumulated NPV 2050	1,250,344	1,377,825	1,444,662	1,559,197	1,441,229	1,448,892	1,502,765
(Better)/Worse from "Base"	-	127,481	194,318	308,852	190,885	198,548	252,421
High LMPs & NG - 50% High	IRP22	IRP23	IRP24	IRP25	IRP26	IRP27	IRP28
Accumulated NPV 2050	1,609,226	1,601,560	1,597,285	1,588,524	1,610,706	1,603,340	1,633,033
(Better)/Worse from "Base"	-	(7,666)	(11,941)	(20,702)	1,480	(5,886)	23,807
Low LMPs & NG - 50% Low	IRP29	IRP30	IRP31	IRP32	IRP33	IRP34	IRP35
Accumulated NPV 2050	1,242,218	1,370,130	1,437,542	1,554,781	1,436,759	1,442,071	1,498,236
(Better)/Worse from "Base"	-	127,912	195,324	312,564	194,541	199,853	256,018
High PPA - 25% High	IRP36	IRP37	IRP38	IRP39	IRP40	IRP41	IRP42
Accumulated NPV 2050	1,448,285	1,563,782	1,628,801	1,770,240	1,634,817	1,634,061	1,676,704
(Better)/Worse from "Base"	-	115,497	180,515	321,955	186,532	185,775	228,419
Low PPA - 25% Low	IRP43	IRP44	IRP45	IRP46	IRP47	IRP48	IRP49
Accumulated NPV 2050	1,448,211	1,452,771	1,450,769	1,417,314	1,456,914	1,456,029	1,498,814
(Better)/Worse from "Base"	-	4,560	2,558	(30,897)	8,703	7,818	50,603
High Externality	IRP64	IRP65	IRP66	IRP67	IRP68	IRP69	IRP70
Accumulated NPV 2050	1,528,130	1,587,746	1,618,416	1,667,675	1,619,793	1,623,219	1,661,693
(Better)/Worse from "Base"	-	59,616	90,286	139,544	91,663	95,089	133,562

**Note: Gold Boxes above designate lowest cost option.*

D. Department Initial Comments on Modeling

The Department's Initial Comments recommended accepting SMMPA's modeling; however, the Department was concerned that SMMPA did not choose the least-cost plan, but rather an alternative case (P3) that was $90 million more expensive. The Department did not run its own modeling to create an alternative preferred plan, so the Department recommended SMMPA to provide in Reply Comments:

> a more detailed justification for selecting the preferred plan, particularly regarding the $90 million cost differential compared to the least-cost case, and how the trade-offs align with SMMPA's long-term goals and financial considerations.[13]

Later in the briefing papers, Staff will summarize SMMPA's response and the Department's Supplemental Comments, which ultimately concluded SMMPA's selection of P3 was reasonable.

III. Regulatory Compliance

A. SMMPA's compliance with the EETS and CFS

Minn. Stat. § 216B.1691, subd. 2(a) (the EETS) requires SMMPA to provide 25% of its energy from renewable sources in 2025.

Minn. Stat. § 216B.1691, subd. 2(g) (the CFS) requires municipal utilities, including SMMPA, to generate or procure an amount of electricity from carbon-free energy technologies that is equivalent to at least the following percentages:

- 60% in 2030;
- 90% in 2035; and
- 100% in 2040.

Figure 6 depicts SMMPA's EETS and CFS compliance from 2008-2039. The figure shows yearly credit retirements, along with historical and projected credit production. SMMPA noted there are gaps in years 2016-2019 and again in years 2029 and 2030. To fill these gaps, in 2016-2019, SMMPA employed "a credit banking and depletion strategy," which the Agency intends to do again in 2029 and 2030 when the renewable need outpaces renewable generation production.

[13] Department initial comments, p. 30.

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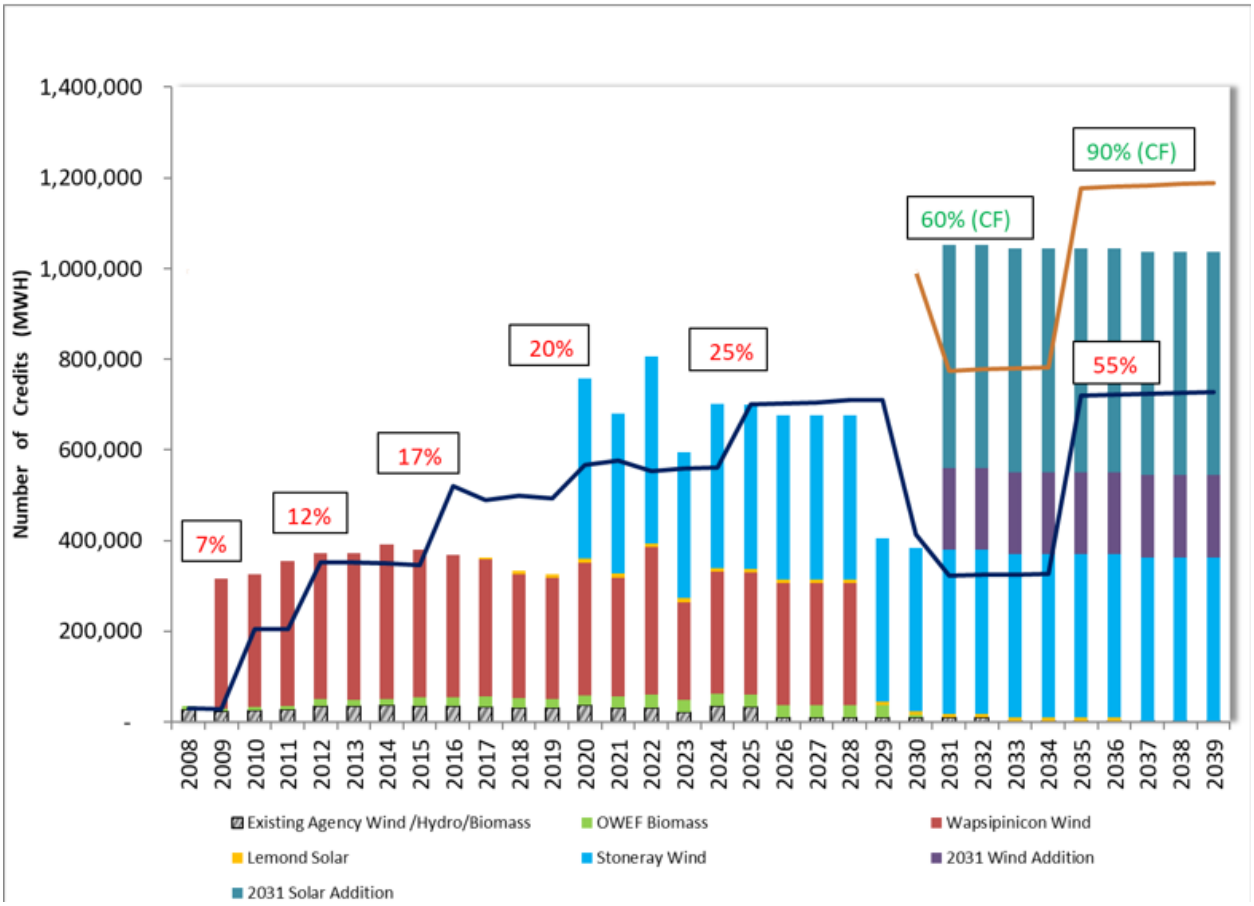
Figure 6. SMMPA Renewable Energy Standard Compliance



Staff notes that the gap beginning in 2029 is largely the result of removing the red bar, which reflects the expiration of the Wapsipinicon Wind PPA. This gap is filled in 2031 when the generic wind and solar expansion units are added to the model. As mentioned previously, it is possible that the Wapsipinicon Wind PPA could be renewed.

Table 9 shows SMMPA's forecasted percentage of load served by carbon-free resources under the Preferred Plan.[14] The table includes the extension of the Austin Utilities power sales agreement. Staff used values from 2026-2033 only, and Staff notes the following takeaways:

- SMMPA's percent of carbon-free generation decreases during the five-year action plan, largely due to the expiration of renewable energy PPAs.

- However, carbon-free generation increases substantially toward the latter half of the planning period, after the addition of new wind and solar.

[14] SMMPA accounts for carbon emissions from all Agency-owned or contracted generation resources, but did not attempt to account for carbon emissions associated with market energy purchases.

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- Carbon-based generation drops significantly after the retirement of Sherco 3.
- Customer load drops after the power sales contract with Rochester Public Utilities.

Table 9. Percent Carbon Free – Generation and Load (Includes Austin Utilities)

Year	Carbon Based Generation (MWh)	Carbon Free Generation (MWh)	Percent of Generation Carbon Free	Customer Load (MWh)	Percent Load Carbon Free
2026	1,612,212.19	787,535.28	33%	2,903,677	27%
2027	1,912,410.60	787,548.55	29%	2,912,015	27%
2028	1,919,259.93	791,099.94	29%	2,927,356	27%
2029	1,722,449.10	557,767.19	24%	2,931,745	19%
2030	1,926,080.34	803,113.23	29%	2,014,691	40%
2031	94,553.47	1,455,134.83	94%	1,731,249	84%
2032	76,790.14	1,459,865.12	95%	1,736,292	84%
2033	53,041.35	1,447,211.72	96%	1,736,228	83%

As SMMPA discussed in Reply Comments, even though in some years SMMPA's carbon-free generation will be below its EETS/CFS requirements, when factoring in the Agency's REC banking and retirement strategy, SMMPA forecasts sufficient RECs to meet Minnesota's renewable energy objectives throughout the planning period, even with the additional Austin load. Table 10 below shows SMMPA's forecasted MRETS account balance in years 2026-2030 and 2035 and 2040. As shown in the rightmost column, which Staff highlighted with a red box, SMMPA forecasts a REC surplus throughout the planning period.

Table 10. SMMPA EETS/CFS Compliance Projection (Includes Austin Load Forecast)

Year	Credit Production	EETS/CFS Standard	EETS/CFS Compliance Requirement	MRETS Balance after retirement
2026	675,868	25%	702,105	1,234,184
2027	675,813	25%	704,819	1,205,178
2028	675,758	25%	709,241	1,171,694
2029	405,638	25%	710,831	866,501
2030	384,278	60%	993,869	256,909
2035	1,043,552	90%	1,176,376	1,200,752
2040	1,036,114	100%	1,326,890	322,345

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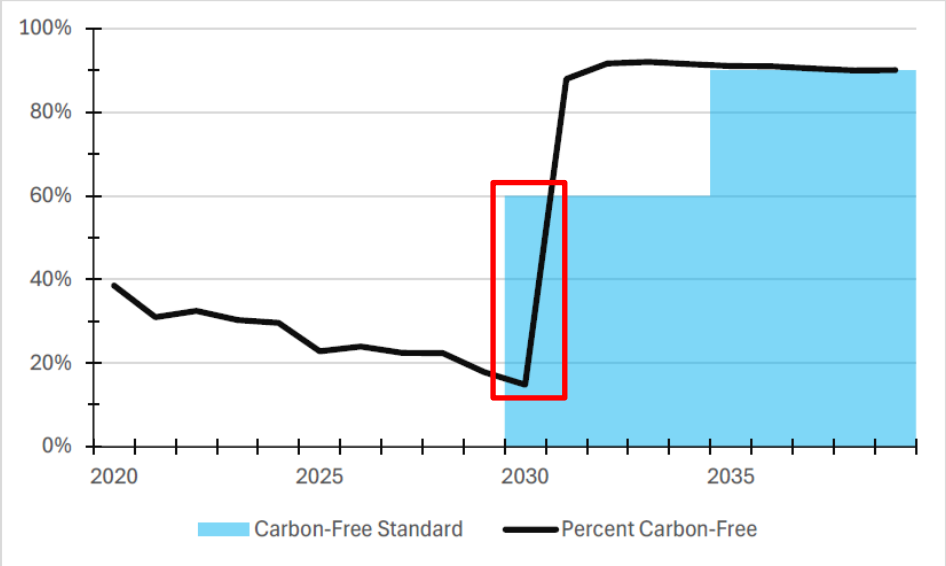
B. Department Comments on Regulatory Compliance

1. CFS Compliance

The Department calculated that, in the year 2030, SMMPA will fall short of its CFS requirements by approximately 45 percentage points. This is because Sherco 3 continues to be dispatched into the MISO market, while new wind and solar are not added until 2031. In the figure below, Staff highlighted SMMPA's shortfall with a red box; the blue-shaded area depicts CFS compliance requirements, and the line reflects SMMPA's percent of carbon-free emissions.

Figure 7. Carbon-Free Standard and SMMPA Percent of Carbon-Free Emissions (Percent of Total Retail Electric Sales)



To address the Department's concern over the risk that CFS compliance will not occur until after 2030, the Department recommended that SMMPA "explain in reply comments what the Agency plans to do to ensure that the Agency completes enough planned actions to achieve the 60 percent Carbon-free Standard in 2030."[15]

The Department also flagged SMMPA's treatment of RECs and market purchases used to calculate the percentage of retail electric sales coming from carbon-free technology, as well as double-counting RECs to meet more than one requirement. Because the treatment of RECs and market purchases are important to SMMPA's calculation toward meeting the CFS, the Department requested that SMMPA's Reply Comments address these assumptions:

> Due to on-going proceedings, the Department is uncertain about Commission treatment of RECs and market purchases. Assuming that RECs and market purchases cannot yet be counted, the deficit in meeting the standard appears to

[15] Department initial comments, p. 24.

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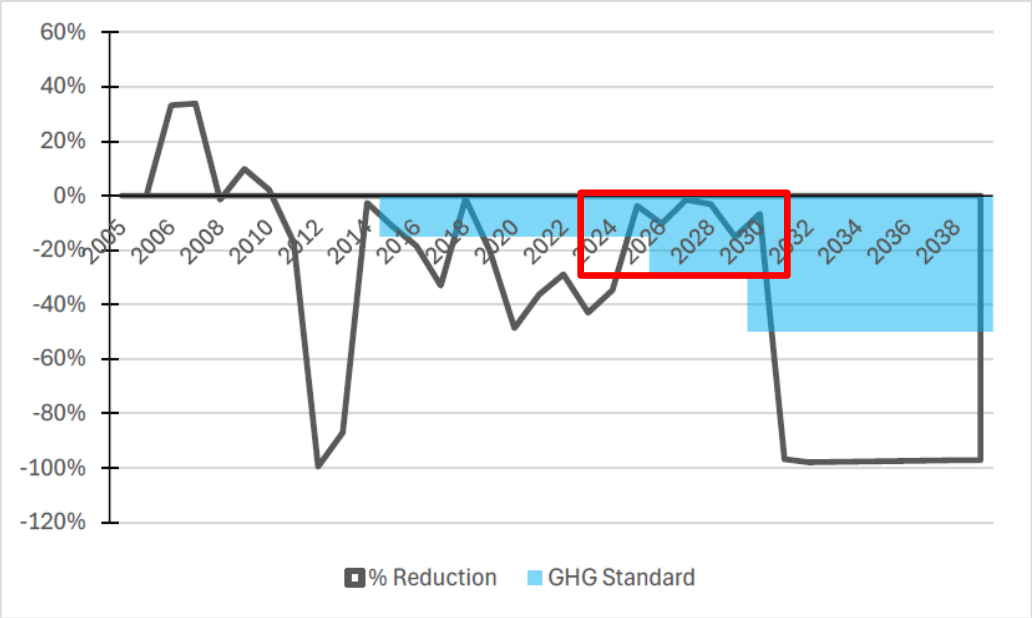
be 7 to 8 percentage points from 2035-2039.[16]

2. GHG Reduction Goal

The figure below shows that SMMPA does not project to meet the greenhouse gas (GHG) emissions reduction goals from 2025-2030. The blue-shaded area depicts the GHG reduction goals, and the line represents reductions relative to 2005 levels. As shown, SMMPA may fall short of the GHG goals from 15-28 percentage points over 2025-2030. In 2030, when Minnesota's GHG reduction goal increases to 50%, SMMPA projects a shortfall of 43 percentage points. However, once Sherco 3 is retired and replaced with new wind and solar, SMMPA exceeds the goal for the remainder of the planning period. To address this, the Department recommended that SMMPA's Reply Comments clarify its plans on meeting GHG emissions goals in the years 2025-2031.

Figure 8. Percent Reductions in Greenhouse Gas from 2005 With Emissions Goals



3. ECO/CIP Compliance

The Department reviewed the ECO and CIP review letters from 2019-2023 and found only evidence of compliance. Thus, the Department had no conservation-related recommendations.

SMMPA REPLY COMMENTS

On May 29, 2025, SMMPA filed Reply Comments responding to the Department's March 26, 2025, requests for additional information. Staff compiled the table below to show the Department's recommendations next to SMMPA's responses.

[16] Department initial comments, p. 24.

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Table 11. SMMPA's Responses to Department Recommendations

Issue	DOC Recommendation	SMMPA Response
Forecasting	Accept SMMPA's energy and demand forecast.	Agree
Modeling	Accept SMMPA's expansion modeling and Preferred Plan.	Agree
Modeling: Preferred Plan	Justify selecting the Preferred Plan, particularly the $90 million cost differential compared to the least-cost case.	The cost of renewable energy has risen significantly in recent years. No new renewable resources are needed during the next three years. There is no need to make immediate planning decisions for projects that are six years out from commercial operation.
Modeling: Emerging Technologies	Explore advancements in energy storage or grid flexibility in future IRPs.	SMMPA used NREL's battery cost assumptions, which continues to be twice that of traditional units. Currently, cost barriers and MISO capacity accreditation uncertainty make selecting a battery storage project difficult at this time; however, SMMPA is monitoring developments in battery technology.
Compliance: Carbon-Free Standard	Explain how the Agency will achieve the 60% CFS in 2030 and identify the month/quarter the 2030 CFS milestone with be achieved.	The IRP identified the addition of 225 MW of solar and 50 MW of wind, which will meet the CFS once the law takes effect. The current model selects up to 300 MW of solar and 90 MW of wind to cover the additional load from Austin, although the exact mix of renewables continues to be refined.
Compliance: Carbon-Free Standard	Describe how the treatment of RECs and market purchases were used in calculating the percentage of retail electric sales coming from carbon-free technology.	The Agency believes the legislation was intended to transition the state to a less carbon-intensive electric grid, and the use of RECs and market purchases could be a key element in any utility's compliance strategy.
Compliance: GHG Reduction Goal	Explain plans to meet the GHG emissions goals in the years 2025-2031.	The dispatch of Sherco 3 into the MISO market is required until its planned retirement in 2030. While forecasts do not perfectly align with the State's goals from 2025-2030, SMMPA forecasts meeting the 2050 reduction goal as early as 2031.

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In response to the Department's request that SMMPA explain the use of double-counting of RECs to meet more than one regulatory compliance requirement, SMMPA stated:

> To the extent that MRETs evolves to separately track renewable attributes and carbon-free attributes from generation resources, such as wind and solar that produce both attributes, and to the extent the Agency includes the use of certificates as part of a compliance strategy, separate carbon-free certificates and separate renewable certificates would be a part of that compliance strategy. However, to the extent a REC from wind and solar resources, as is the case today, includes both renewable and carbon-free attributes, the Agency does not view the use of a REC for both the renewable and carbon-free requirements as double-counting.
>
> Given the current landscape of available technology, as well as economic factors, we anticipate all of SMMPA's carbon-free resources being sourced from renewable energy projects that meet the requirements in both Subd 2g and Subd 2a.[17]

DEPARTMENT SUPPLEMENTAL COMMENTS (JUNE 26, 2025)

The Department's June 26, 2025, Supplemental Comments addressed the following issues:

- Forecasting;
- Modeling;
- CFS compliance, particularly in 2030;
- Market purchases and RECs;
- Inclusion of Austin Utilities' load;
- RES calculations;
- GHG emissions reduction goal; and
- Department recommendations, including:
  - Acceptance of SMMPA's IRP
  - Date for the next IRP
  - Issues for the next IRP

The Department provided three recommendations regarding this IRP and two for the next IRP. Staff presents these as five separate decision options, which are listed as follows:

2024 IRP

- Accept SMMPA's IRP
- Accept SMMPA's energy and demand forecast
- Accept SMMPA's expansion modeling and Preferred Plan

[17] SMMPA reply comments, p. 6.

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Next IRP

- Require SMMPA to file its next IRP by December 1, 2027
- Require that SMMPA's modeling explore potential technological advancements in energy storage or grid flexibility

Below, Staff summarizes the Department's comments on the topics listed above.

Forecasting: In Initial Comments, the Department recommended the Commission accept SMMPA's energy and demand forecasts. This recommendation did not change in Supplemental Comments.

Modeling: As in Initial Comments, the Department did not find any methodological flaws with SMMPA's modeling, so the Department recommended the Commission accept SMMPA's capacity expansion modeling and Preferred Plan. However, the Department noted in Initial Comments that SMMPA's Preferred Plan (Scenario P3) was approximately $90 million more expensive than the optimized, least-cost case (P1), so the Department asked SMMPA to justify the selection of the more expensive plan in Reply Comments.

The Department's Supplemental Comments stated that SMMPA "provided reasonable justification for its preferred plan and explained its approach to balancing long-term decarbonization goals with evolving cost and technology uncertainties."[18] Thus, the Department had no remaining concerns with SMMPA's economic analysis.

GHG Reduction Goal: SMMPA noted in Reply Comments that, due to the structure of MISO's regulations and energy market, it has little control over how much Sherco 3 is dispatched by MISO to serve MISO load. The Department agreed with SMMPA's reply and raised no further concerns regarding this issue.

Additional Austin Load: In Initial Comments, the Department recommended that SMMPA provide additional CFS compliance calculations that included Austin Utilities. The Department reviewed SMMPA's information and calculations and had no concerns.

Date for Next IRP: Given the recent changes in SMMPA's membership, and the fact that Sherco 3 is retiring in 2030, the Department recommends the Commission use a three-year interval between IRPs and order SMMPA to file its next IRP by December 1, 2027.

Issues for Next IRP: The Department recommends that SMMPA's Aurora modeling in future IRPs explore potential technological advancements in energy storage or grid flexibility. The Department believes these developments could influence the need for additional dispatchable resources.

[18] Department supplemental comments, p. 2.

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STAFF DISCUSSION

I. Commission Review of Resource Plans

Minn. R. 7843.0050, subp. 3 states that resource plans must be evaluated on their ability to:

A. maintain or improve the adequacy and reliability of utility service;
B. keep the customers' bills and the utility's rates as low as practicable, given regulatory and other constraints;
C. minimize adverse socioeconomic effects and adverse effects upon the environment;
D. enhance the utility's ability to respond to changes in the financial, social, and technological factors affecting its operations; and
E. limit the risk of adverse effects on the utility and its customers from financial, social, and technological factors that the utility cannot control.

In the table below, Staff summarizes SMMPA's justifications for how the Preferred Plan meets the Commission's evaluation criteria:

Table 12. Factors to Consider in Resource Plans

Criterion	SMMPA's Justifications
Reliability	SMMPA has small generating resources dispersed throughout the State, rather than large centralized generating plants. This increases grid reliability and resiliency in member communities; for example, SMMPA's resources provide voltage support for MISO in congested areas of the State and can operate under emergency conditions.
Bill and Rate Impacts	SMMPA's Board of Directors have a fiduciary duty to ensure the financial viability of the Agency and are motivated by their relationships with their local utilities commissions and customers to keep rates as low as practical.
Environmental Effects and Socioeconomic Impacts	Socioeconomic adversities are reduced by managing existing resources as efficiently as possible. Environmental effects are mitigated by retiring Sherco 3, adding renewables, and continuing DSM initiatives.
Flexibility to Respond to Change	SMMPA and its staff are much closer to the ultimate customer than a typical investor-owned utility. SMMPA members meet on a monthly basis, which keeps them up-to-date on current issues. Also, SMMPA staff works directly with its members' customers to implement DSM programs.
Limiting Risks	Retiring Sherco 3 and adding renewables will reduce environmental regulatory risk. Also, the fuel diversity in the Preferred Plan limits exposure to financial risks and does not lock SMMPA into a specific technology or ownership structure. In addition, locating generation in member communities where the load exists protects the Agency from LMP spikes.

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Staff believes SMMPA reasonably meets the Commission's IRP evaluation criteria; moreover, Staff believes SMMPA's selection of P3 as its Preferred Plan will reasonably meet the Agency's carbon-free (i.e., EETS and CFS) obligations. Therefore, Staff agrees with the Department that the Commission should accept SMMPA's IRP.

The remainder of this section will address SMMPA's next IRP.

II. Next IRP

A. Scenarios P3 vs. P1

One of the Department's main concerns in this proceeding involved SMMPA's selection of the Preferred Plan (Scenario P3) over the less-expensive Optimal Case (Scenario P1). However, the Department ultimately agreed that SMMPA's selection of P3 was reasonable, concluding that the Agency "provided reasonable justification for its preferred plan and explained its approach to balancing long-term decarbonization goals with evolving cost and technology uncertainties."[19]

It might be worth noting that where SMMPA's expansion plans largely begin to diverge is in 2031, after Sherco 3 is retired and outside of the five-year action plan, which means they will be revisited in the next IRP and, quite possibly, before any of the wind and solar investments are made. In fact, SMMPA highlighted the recent increases in renewable energy prices and stated that no new renewable acquisitions are imminent:

> No renewable project procurement will be needed during the next three years. Staying on the course will allow for a clearer picture of solar and wind project pricing. Too many factors are currently in a state of flux to make immediate planning decisions for projects that are six years out from commercial operation.[20]

SMMPA's near-term (2025-2030) resource need is approximately 40-60 MW. SMMPA's five-year action plan is based on Aurora modeling showing that "most economical method of meeting that need is the addition of 14 MW of emergency diesel generation and 49 MW to 70 MW of natural gas-fired dispatchable resources."[21] These resource additions are consistent across all scenarios. Table 13 below compares 2031 resource additions in P3, the Preferred Plan (rightmost column), to the lower-cost scenarios, P1 and P2.

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[19] Department Supplemental Comments, p. 2.

[20] SMMPA reply comments, p. 5.

[21] Petition, p. 8-8.

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Table 13. 2031 Resource Additions in Scenarios P1, P2, and P3

2031 Additions	Optimal Case (Base)	60% Carbon Free in 2031 60 Solar/40 Wind	80% Carbon Free in 2031 60 Solar/40 Wind
Case #	**P1**	**P2**	**P3**
New Gas (MW)	70	65	55
New Oil (MW)			
New QS (MW)	14	14	14
New Wind (MW)			50
New Solar (MW)		175	225
New Battery (MW)			

Staff raises this point because the exact combination of resources that SMMPA will ultimately pursue to replace Sherco 3 could be quite different in the next IRP. In addition, as Staff noted previously, SMMPA has several existing renewable energy PPAs that are assumed expire during the planning period, perhaps most notably the 100.5 MW Wapsipinicon Wind PPA (SMMPA's largest renewable energy resource) in 2029. Therefore, because several factors could change the makeup and costs of the renewable expansion plan by 2031, Staff is not particularly concerned with SMMPA's selection of a plan with a relatively higher NPV.

Furthermore, even though the modeling found that P3 has a higher NPV than P1, SMMPA highlighted other factors justifying why P3 has advantages over P1. These include reduced financial risks associated with relying on REC purchases for CFS compliance and providing a hedge against MISO market prices.

For these reasons, Staff believes SMMPA's proposal to replace Sherco 3 with 225 MW of solar and 50 MW of wind is well-supported on this record.

B. Modeling Additional Resource Options

The Department recommends that "SMMPA's Aurora modeling explore potential technological advancements in energy storage or grid flexibility in future IRPs, as these developments could influence the need for additional dispatchable resources."[22] Staff believes this is a reasonable request, although additional specificity to this language may provide helpful guidance to the Agency. For example, SMMPA already modeled energy storage in this IRP, so it is unclear whether the Department is asking SMMPA to continue modeling this resource or explore a different technology. Staff offers solar-plus-storage technology – which SMMPA did not model in this IRP – as one possibility.

C. Filing Date

The Department explained its recommendation for a December 1, 2027 filing date for the next

[22] Department Supplemental Comments, p. 9.

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IRP as follows:

> Given the recent changes in SMMPA's membership and the fact that Sherco unit 3 is retiring in 2030, the Department recommends the Commission use a three-year interval and order SMMPA to file its next IRP by December 1, 2027.[23]

Staff supports this filing date. For the Commission's consideration, the following table provides the upcoming IRP schedule:

Table 14. Utility IRP Filing Schedule

Utility	**Next IRP**
Minnesota Power	Pending, filed March 3, 2025
Otter Tail	May 15, 2026
Xcel Energy	April 21, 2027
Basin Electric	Extension until November 1, 2027 requested
Dairyland	Pending
Great River Energy	April 1, 2026, one-year extension requested
Minnkota, NMPA	December 1, 2025
MMPA	Pending
MRES	July 1, 2026

III. Guide to the Decision Options

The Commission's Decision Options on the next page of the briefing papers are from the Department's June 26, 2025, Supplemental Comments. As noted above, the Department supports accepting SMMPA's IRP, forecast, and modeling, and the Department makes recommendations for the next IRP. SMMPA did not raise any objections to the Department's recommendations.

Staff supports the Department's recommendations, and if the Commission agrees, it can move Decision Options 1-5.

[23] Department Supplemental Comments, p. 9.

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DECISION OPTIONS

Department recommendations (from DOC's June 26, 2025, Supplemental Comments)

Accept SMMPA's IRP

1. Accept SMMPA's 2025–2039 Resource Plan. (SMMPA, Department)

2. Accept SMMPA's energy and demand forecast for this IRP. (SMMPA, Department)

3. Accept SMMPA's expansion modeling and preferred plan for this IRP. (SMMPA, Department)

Requirements for SMMPA's Next IRP

4. Require SMMPA to explore in its economic modeling potential technological advancements in energy storage or grid flexibility in future IRPs. (SMMPA, Department)

5. Require SMMPA to file its next IRP by December 1, 2027. (SMMPA, Department)

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