Western Resource Adequacy Program PRM Task Force – Concept Paper

Task Force Concept Paper
This Concept Paper has been prepared by the Program Review Committee's 2025 Workplan Task Force 02 – Earlier Forward Showing (FS) Metrics / Monthly Volatility (PRM) ahead of the September 10th, 2025, Resource Adequacy Participant Committee (RAPC) meeting and modified based on feedback for the October 16th, 2025 RAPC meeting.

Task Force Membership		
APS	Brandon Holmes / Xinyue Fan Narup / Akhil Mandadi	brandon.holmes@aps.com Xinyue.FanNarup@aps.com Akhil.Mandadi@aps.com
IPC	Nicole Blackwell / Andres Valdepena Delgado	nblackwell@idahopower.com AValdepenaDelgado@idahopower.com
NVE	Lindsey Schlekeway / Rodger Manzano	lindsey.schlekeway@nvenergy.com rodgerjoseph.manzano@nvenergy.com
BPA	Anthony Lusardi / Steve Bellcoff	anlusardi@bpa.gov srbellcoff@bpa.gov
Powerex	Michael Goodenough / Glen Tang / Ryan Holyk	mike.goodenough@powerex.com glen.tang@powerex.com ryan.holyk@powerex.com
Tacoma	Leah Marquez Glynn / Thad LeVar / Carly Page / Connor Lennon	marquezglynn@cityoftacoma.org TLeVar@tacoma.gov CPage1@tacoma.gov CLennon@tacoma.gov
TEA	Ed Mount	emount@teainc.org
PSE	Sachi Begur / Phil Haines	Sachi.Begur@pse.com Philip.Haines@pse.com
PGE	Stefan Cristea / Devin Mounts / Teyent Gossa	Stefan.Cristea@pgn.com devin.mounts@pgn.com Teyent.Gossa@pgn.com

I. Background

a. Overview

The Program Review Committee's (PRC) 2025 Workplan consolidated Concepts 2024-CRF-002 and 2024-CRF-017 into the PRM Task Force. The charge is to reevaluate the FS Planning Reserve Margin (FSPRM) and FS Capacity Requirement – including timing and modeling methodology –

for the Western Resource Adequacy Program (WRAP), and to develop a proposal for stakeholder review in accordance with BPM 302 *Program Review Committee Proposal Development and Consideration*. This document is a Concept Paper for RAPC discussion and does not constitute a final Task Force Proposal.

b. Impact

This Concept Paper will affect both the timing and modeling process for setting the FSPRM. These changes will directly influence the FS Capacity Requirement as well as the currently defined Advance Assessment process.

II. Objectives – Principles

The Task Force Co-Chairs developed the following principles to guide deliberations on timing and methodology. These principles provided the foundation for evaluating alternatives and building consensus around any proposed solutions:

- **Analytically Driven** - Decisions should be grounded in analysis, with outputs based on clearly defined and repeatable methodologies.
- **Practical and Pragmatic** - Recommendations must reflect real-world constraints and operational feasibility, aiming for solutions that can be implemented effectively.
- **Risk-Informed** - Policies should consider and weigh tradeoffs, acknowledging uncertainty and varying levels of risk tolerance across stakeholders.
- **Transparent and Defensible** - Approaches should be explainable, justifiable, and easy to communicate—aligning with standard business and industry practices.

III. Solution

a. Timing

The Task Force proposes to differentiate elements that are all currently encompassed in the Advance Assessment process into different components. Since Effective Load Carrying Capability (ELCC) is out-of-scope for this Task Force (and this Task Force is not making a recommendation regarding ELCC – see more in Section IV), the proposal is to bifurcate the Advance Assessment into 1) an LOLE study to set the FSPRM and 2) an ELCC study to determine Qualifying Capacity Contribution (QCC). The study referred to below is solely focused on the LOLE study to set the FSPRM.

Each year, a new LOLE study to set FSPRMs for year T will be completed to set both the Summer and Winter Season FSPRMs independently. The modeling will be completed, and the Board of Directors will approve binding FSPRMs 5 years ahead of FS Submittal Deadline of the relevant Binding Season and provides advisory FSPRMs 10 years ahead of FS Submittal Deadline for such season. The timeline for data collection and study will be as follows for a binding FSPRMs for a Binding Season beginning in year T.

- Summer Season
    - Collect data: March 1, T-7

  - Run Studies: 17 months
  - Studies complete: July 31, T-6
  - FSPRMs approved: October 31, T-6
  - FS Deadline: October 31, T-1
  - Summer Season begins: June 1, T
  - Summer season for which advisory FSPRMs were calculated begins: June 1, T+5
- Winter Season
  - Collect data: March 1, T-7
  - Run Studies: 10 months
  - Studies complete: December 30, T-6
  - FSPRMs approved: March 31, T-5
  - FS Deadline: March 31, T
  - Summer Season begins: November 1, T
  - Winter season for which advisory FSPRMs were calculated begins: November 1, T+5

The current Advance Assessment timeline aligns with the withdrawal notice required by a Participant to exit the WRAP, ensuring that only Participants that will be participating in a Season are included in the modeling and metric setting for that Season. By setting the FSPRM 5 years ahead of the FS Deadline for such Season, this proposal no longer aligns with the current Advance Assessment timeline in that some participants may be included in the modeling and metric setting who have subsequently given notice to withdraw from the program before the start of such Season for which the metrics were set.

Task Force discussion is needed to propose timeline to transition from the current 2-year before the season FSPRM to the 5-year before the FS Deadline FSPRM.

To mitigate the risk of including load, resources, and transmission in the study that will not be present for the Season (due to changes in Participation), the Task Force proposes the following to provide **advisory** FSPRMs in the event that changes in program participation reach a defined threshold, if the timing of withdrawal notice and data collection is not aligned. These will be informational only and the Participants will use the Board-approved FSPRM for the Forward Showing Submittal. These advisory FSPRMs allow for increased transparency and risk-informed decision making for the Participants. These advisory FSPRM allow for increase transparency and risk-informed decision making for the Participants. Thresholds for changes in program participation that would trigger the necessary studies to provide advisory FSPRMs will be clearly defined as part of the final Task Force Proposal.

- Summer Season
  - Collect data: March 1, T-7
  - Run Studies: 17 months
  - Studies complete: July 31, T-6
  - FSPRMs approved: October 31, T-6
  - *Exit notice deadline for Participation in Summer: May 31, T-2*

  - *Evaluation of changes in Participation: July 1, T-2*
  - *The evaluation will look at the load and resource of any withdrawing or withdrawn Participants. If the sum of those loads and resources meets a defined threshold, then the Program Operator will determine advisory FSPRMs for the Season under consideration. If the evaluation determines that advisory FSPRMs are needed, then:*
    - *Advisory FSPRMs complete: December 31, T-2*
  - FS Deadline: October 31, T-1
  - Summer Season begins: June 1, T
  - Summer season for which advisory FSPRMs were calculated begins: June 1, T+5
- Winter Season
  - Collect data: March 1, T-7
  - Run Studies: 10 months
  - Studies complete: December 30, T-6
  - FSPRMs approved: March 31, T-5
  - *Exit notice deadline for Participation in Winter: October 31, T-2*
  - *Evaluation of changes in Participation: December 1, T-2*
  - *The evaluation will look at the load and resource of any withdrawing or withdrawn Participants. If the sum of those loads and resources meets a defined threshold, then the Program Operator will determine advisory FSPRMs for the Season under consideration. If the evaluation determines that advisory FSPRMs are needed, then:*
    - *Advisory FSPRMs complete: June 30, T-1*
  - FS Deadline: March 31, T
  - Summer Season begins: November 1, T
  - Winter season for which advisory FSPRMs were calculated begins: November 1, T+5

In addition to the advisory FSPRM, the Task Force also discussed evaluating the level of LOLE that the binding FSPRM would supply to the program in the same situations that an advisory FSPRM is determined.

The Task Force considered the following alternatives for timing:

- Current state – Annual modeling, binding FSPRM 2 years out, advisory 5 years out.
- Biennial modeling – Binding FSPRM 5 years out, advisory 10 years out, but maintain the same FSPRM for 2 years.
- Alternating full study and refresh years – Binding FSPRM 5 years out, advisory 10 years out, but alternate years refresh resource mix and load forecast while maintaining the same model parameters.

b. Methodology

The Task Force has considered a combination of certain options for overall methodology as well as more discrete inputs to the LOLE study. The following are methodology options that have been considered:

1. Seasonal LOLE
    - Each Participant would apply a single FSPRM to their Peak P50 for the Season – this would result in a flat capacity requirement for the whole season.
    - Pros: No variability month-to-month, limited variability year to year compared to monthly PRMs, in line with current industry standards
    - Cons: higher shoulder month capacity requirements compared to other methodologies (though not guaranteed)
2. Optimized LOLE – Current State
    - Run the natural LOLE, then optimize it to require the lowest total capacity for the whole season. Requires each month have a minimum of 0.01 LOLE.
    - Currently, the Winter uses a mega-peak (December, January, February) for the Non-Coincident Peak (NCP) that is used to determine the Final Capacity Requirement (meaning the Final Capacity Requirement for those months is not exactly the same but is flatter than treating each month individually). *Note: this mega-peak methodology could also be applied to Summer (June, July, August).*
    - Both FSPRM and Capacity Requirement will be different for every month of a season.
    - Pros: lowest total capacity requirement.
    - Cons: more monthly variability and year-to-year variability than Seasonal or Stabilized FSPRMs, month-to-month variability could lead to higher or lower shoulder month capacity requirements compared to other methodologies
3. Stabilized LOLE
    - Run the natural LOLE, then stabilize the LOLE to minimize month-to-month variability.
    - Would need to remove the requirement for each month to have a minimum on 0.01 LOLE.
    - Both FSPRM and Capacity Requirement will be different for every month of a season.
    - Monthly stabilization may result in risk targeted in one or two months leaving zero risk in other months.
    - Pros: less monthly variability than Optimized LOLE, increased modeling flexibility.
    - Cons: more monthly variability and year-to-year variability than Seasonal LOLE, more subjective allocation of risk that would deviate from a pure assessment of the seasonal risk
4. Peak Months LOLE + Shoulders
    - Run the LOLE simulation for the peak months of each season (Winter: December, January, February – Summer: June, July, August) to get a seasonal FSPRM and Capacity Requirement for the peak months.
    - For the shoulder months: apply a FSPRM that is analytically driven to a shoulder month P50
    - Pros: less monthly variability and less year-to-year variability compared to Stabilized or Optimized LOLE, shoulder months receive a generally lower capacity requirement (assuming Participant P50s are lower in shoulder months).
    - Cons: Less analytical for shoulder months, more incremental risk across the year (due to condensing the months where the 1-in-10 is assessed).

To investigate these methodology alternatives, the Program Operator developed estimated FSPRM and total final capacity needed for each of the following methodologies for each of the seasons previously modeled in WRAP Advance Assessments: Seasonal LOLE, Optimized LOLE (what was performed in the Advance Assessment), and Stabilized PRM. That analysis is attached in Appendix I.
In addition to overall methodological discussions, the Task Force considered more discrete levers, including:

- Changing season duration – specifically, shortening the Winter Season in November to only include November 15 (or 20) through November 30.
- Limiting weather years included in the LOLE Simulation
- Limiting shoulder FSPRM to a specific percentage

Methodology Summary

The Task Force reviewed and discussed the four major methodologies and has arrived at the following options. At this time the Task Force has not arrived at a consensus recommendation on FSPRM methodology. The options and levers considered could be combined or "mix and match"-ed in subsequent Task Force discussions and the Task Force may entertain additional methodology options.

1. Seasonal LOLE
    - During the August 19th Task Force meeting, a majority of participating Task Force members voiced support for Seasonal LOLE paired with Shortening the Winter Season (in November to only include November 15 (or 20) through November 30 and evaluating shortening March) and updating FS Deficiency Charges during the Transition Period to mitigate the magnitude of FS Deficiency Charges for deficiencies during the shoulder months – details attached in . While a majority of participating Task Force members voiced support for this option, some voiced concerns and could not support this option.
2. Optimized LOLE
    - This is the current state. This is the default if no alternative is agreed to.
    - Task Force is not recommending maintaining this methodology without changes.
    - *Note*: A minor adjustment to the status quo would be to update the methodology to include the Summer mega-peak for NCP.
3. Stabilized LOLE
    - This methodology adds more subjectivity and ability move around the risk in the LOLE Study. Additionally, with more frequent extreme weather events, it is unknown this methodology will be able to consistently stabilize shoulder months.
4. Peak LOLE + Shoulders
    - During the August 5th Task Force meeting, this methodology was indicated to be of interest to the Task Force via an informal poll and is still under consideration.

However, some Task Force members shared concerns over the less-analytical setting of the shoulder month PRMs.

Regardless of methodology, the Task Force agreed to limit the historical weather years included in the LOLE Simulation to a rolling 40-year historical record.

c. Items for Additional Discussion

In addition to the items discussed above, the Task Force plans to have additional discussion on the following topics:

- P50
- Treatment of Contingency Reserves
- Transition to new timing and new methodology (as needed) and how that relates to withdrawal notice
- FS Deficiency Charges during Transition Period
- Seasonal ELCC (if Seasonal FSPRM + Capacity Requirement is selected option)
- Threshold values of reevaluation of advisory FSPRMs/updated LOLE after withdrawal notice deadline
- Data used in advisory FSPRM re-study
- Season durations

IV. Issues outside of Task Force/Concept Paper Scope

The scope of the Task Force is focused on the FSPRM and FS Capacity Requirement. The Task Force discussed but considered out-of-scope, the following topics: FS Transmission Requirement, QCC and ELCC, Load Forecasting, Notice of Withdrawal, and FS Deficiency Charges.

While Load Forecasting is not a subject of this Task Force, the P50 is integral to the FS Capacity Requirement and so the Task Force may make recommendations to the upcoming Load Forecasting Task Force (starting January 2026) to evaluate the timing of setting the P50.

Similarly, while ELCC is not a subject of this Task Force, the QCC values of resources are important to how a Participant will meet its FS Capacity Requirement and so the Task Force may make recommendations to the upcoming ELCC by Vintage Task Force (starting January 2026) to evaluate the timing of the ELCC study.

Additionally, the Task Force may recommend updates to the FS Deficiency Charge structure during the Transition Period to mitigate the magnitude of FS Deficiency Charges for deficiencies during the shoulder months.

Appendix I – Estimated FSPRM and Total Final Capacity for Different Methodologies

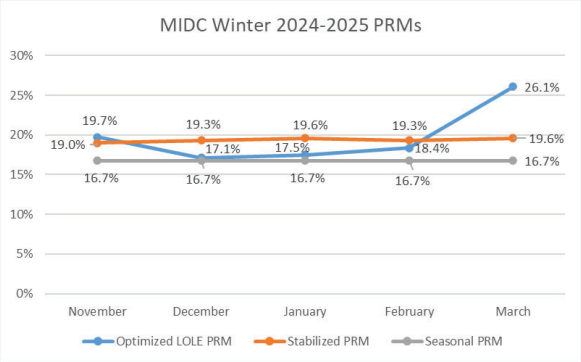
Estimated FSPRM and total final capacity needed for each of the following methodologies for each of the seasons previously modeled in WRAP Advance Assessments: Seasonal LOLE, Optimized LOLE (what was performed in the Advance Assessment), and Stabilized PRM. These are estimates and cannot be viewed as binding capacity needs or FSPRMs.

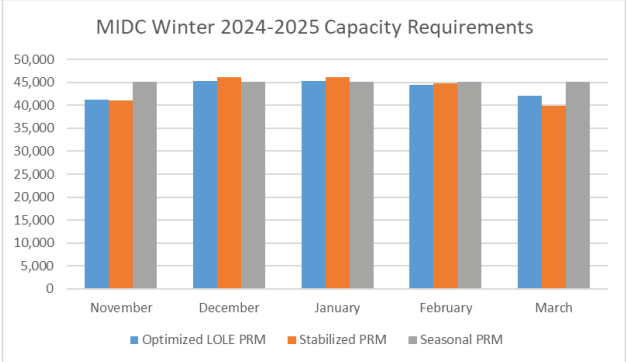
STABILIZED PRM COMPARISONS

MIDC WINTER 2024-2025

OPTIMIZED LOLE PRM	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
LOLE	0.011	0.026	0.026	0.026	0.011
2024-2025 Peak Demand (NCP)	34,485	38,653	38,558	37,613	33,426
Capacity Requirement	41,285	45,270	45,300	44,523	42,133
UCAP NCP PRM	**19.7%**	**17.1%**	**17.5%**	**18.4%**	**26.1%**

STABILIZED PRM	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
LOLE	0.015	0.006	0.010	0.010	0.059
Capacity Requirement	41,041	46,123	46,112	44,873	39,973
UCAP NCP PRM	**19.0%**	**19.3%**	**19.6%**	**19.3%**	**19.6%**

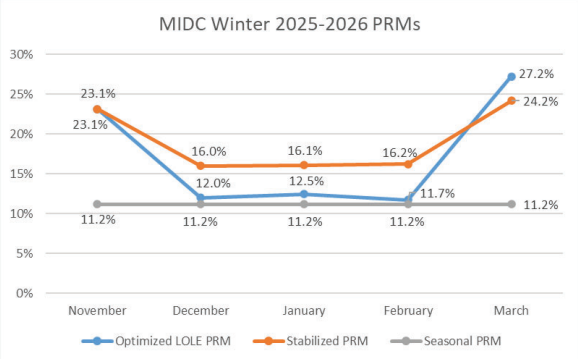


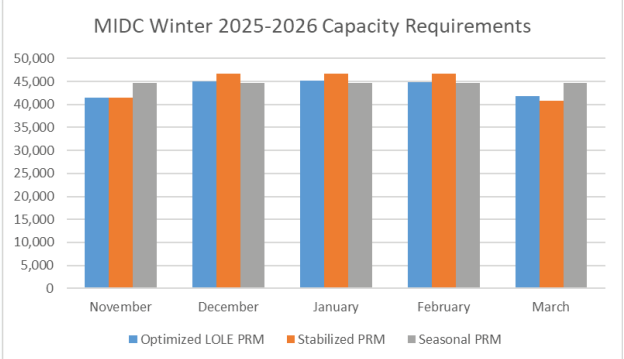


MIDC WINTER 2025-2026

OPTIMIZED LOLE PRM	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
LOLE	0.010	0.042	0.020	0.019	0.010
2025-2026 Peak Demand (NCP)	33,735	40,182	40,182	40,182	32,795
Capacity Requirement	41,534	45,007	45,192	44,888	41,723
UCAP NCP PRM	23.1%	12.0%	12.5%	11.7%	27.2%

STABILIZED PRM	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
LOLE	0.010	0.005	0.003	0.001	0.081
Capacity Requirement	41,534	46,618	46,647	46,706	40,728
UCAP NCP PRM	23.1%	16.0%	16.1%	16.2%	24.2%

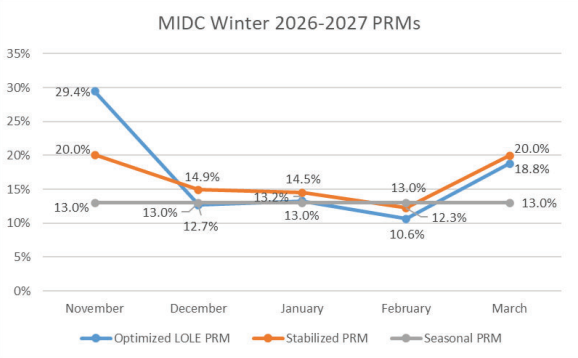


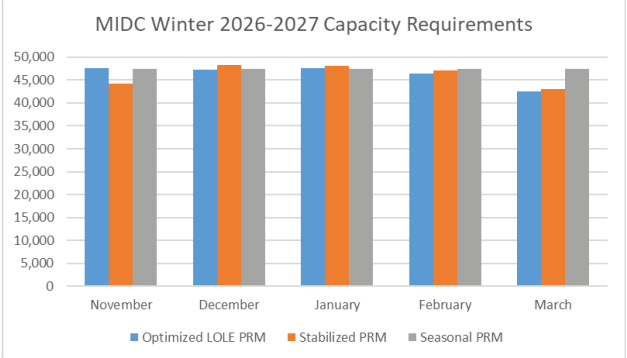


MIDC WINTER 2026-2027

OPTIMIZED LOLE PRM	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
LOLE	0.010	0.060	0.010	0.010	0.010
2026-2027 Peak Demand (NCP)	36,785	42,002	42,002	42,002	35,807
Capacity Requirement	47,604	47,333	47,565	46,462	42,532
UCAP NCP PRM	29.4%	12.7%	13.2%	10.6%	18.8%

STABILIZED PRM	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
LOLE	0.100	0.000	0.000	0.000	0.005
Capacity Requirement	44,155	48,261	48,098	47,148	42,952
UCAP NCP PRM	20.0%	14.9%	14.5%	12.3%	20.0%

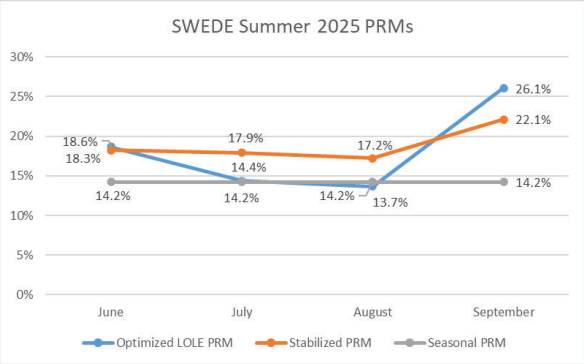


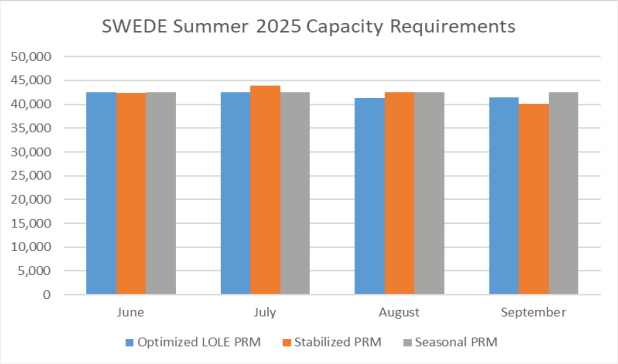


SWEDE SUMMER 2025

OPTIMIZED LOLE PRM	JUNE	JULY	AUGUST	SEPTEMBER
LOLE	0.012	0.049	0.029	0.010
2025 Peak Demand (NCP)	35,853	37,218	36,295	32,841
Capacity Requirement	42,534	42,568	41,256	41,401
UCAP NCP PRM	18.6%	14.4%	13.7%	26.1%

STABILIZED PRM	JUNE	JULY	AUGUST	SEPTEMBER
LOLE	0.014	0.003	0.003	0.080
Capacity Requirement	42,400	43,883	42,541	40,108
UCAP NCP PRM	18.3%	17.9%	17.2%	22.1%

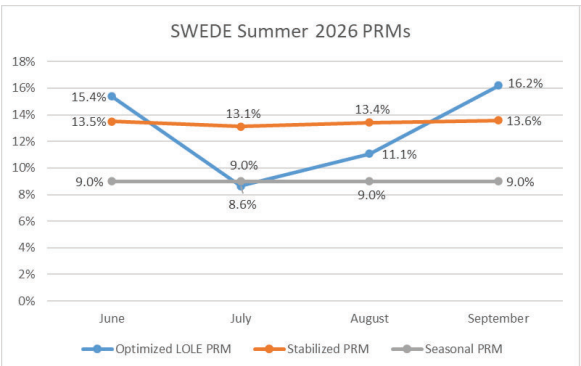


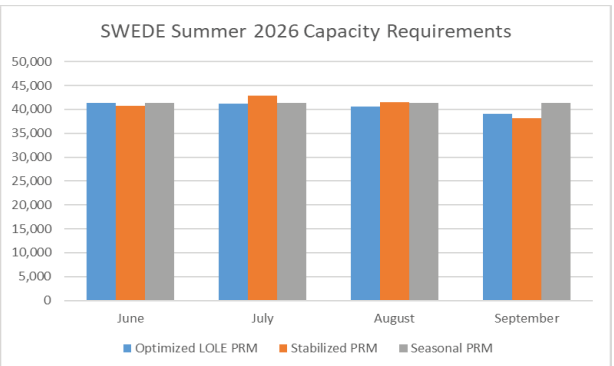


SWEDE SUMMER 2026

OPTIMIZED LOLE PRM	JUNE	JULY	AUGUST	SEPTEMBER
LOLE	0.014	0.054	0.023	0.010
2026 Peak Demand (NCP)	35,858	37,908	36,576	33,619
Capacity Requirement	41,374	41,184	40,622	39,063
UCAP NCP PRM	15.4%	8.6%	11.1%	16.2%

STABILIZED PRM	JUNE	JULY	AUGUST	SEPTEMBER
LOLE	0.030	0.001	0.005	0.060
Capacity Requirement	40,696	42,876	41,481	38,182
UCAP NCP PRM	13.5%	13.1%	13.4%	13.6%





SEASONAL PRM COMPARISONS

CAPACITY REQUIREMENTS

SEASONAL PRMS – WINTER MIDC

MIDC	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
Winter 24-25	19.7%	17.1%	17.5%	18.4%	26.1%
Winter 25-26	23.1%	12.0%	12.5%	11.7%	27.2%
Winter 26-27	29.4%	12.7%	13.2%	10.6%	18.8%

MIDC	SEASONAL
Winter 24-25	16.7%
Winter 25-26	11.2%
Winter 26-27	13.0%

CAPACITY REQUIREMENT– WINTER MIDC

MIDC	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
Winter 24-25	41,285	45,270	45,300	44,523	42,133
Winter 25-26	41,534	45,007	45,192	44,888	41,723
Winter 26-27*	47,604	47,333	47,565	46,462	42,532

MIDC	SEASONAL
Winter 24-25	45,125
Winter 25-26	44,680
Winter 26-27	47,465

Winter 26-27 is the first season with transfer capability of 500MW from SWEDE to MIDC

SEASONAL PRM – SUMMER MIDC

MIDC	JUNE	JULY	AUGUST	SEPTEMBER
Summer 25	26.2%	14.5%	16.1%	14.2%
Summer 26	22.3%	14.2%	18.1%	20.5%

MIDC	SEASONAL
Summer 25	16.5%
Summer 26	16.5%

CAPACITY REQUIREMENT– SUMMER MIDC

MIDC	JUNE	JULY	AUGUST	SEPTEMBER
Summer 25	41,133	39,899	39,816	35,706
Summer 26	43,566	43,091	43,829	40,198

MIDC	SEASONAL
Summer 25	40,608
Summer 26	43,866

SEASONAL PRM – SUMMER SWEDE

SWEDE	JUNE	JULY	AUGUST	SEPTEMBER
Summer 25	18.6%	14.4%	13.7%	26.1%
Summer 26	15.4%	**8.6%***	11.1%	16.2%

SWEDE	SEASONAL
Summer 25	14.2%
Summer 26	9.0%

July PRM capped at WRAP floor of 8.6%

CAPACITY REQUIREMENT– SUMMER SWEDE

SWEDE	JUNE	JULY	AUGUST	SEPTEMBER
Summer 25	42,534	42,568	41,256	41,401
Summer 26	41,374	**41,184***	40,622	39,063

SWEDE	SEASONAL
Summer 25	42,518
Summer 26	41,324

July PRM capped at WRAP floor of 8.6%

SEASONAL PRM – WINTER SWEDE

SWEDE	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
Winter 24-25	19.2%	17.7%	18.0%	23.1%	21.2%
Winter 25-26	21.6%	12.6%	11.3%	13.0%	19.0%
Winter 26-27	13.3%	8.1%	6.8%	7.3%	11.8%

SWEDE	SEASONAL
Winter 24-25	17.8%
Winter 25-26	13.8%
Winter 26-27	10.4%

CAPACITY REQUIREMENT– WINTER SWEDE

SWEDE	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
Winter 24-25	21,584	23,799	23,783	24,057	22,228
Winter 25-26	23,665	24,979	24,689	25,052	23,382
Winter 26-27	24,489	25,082	24,796	24,894	23,731

SWEDE	SEASONAL
Winter 24-25	23,823
Winter 25-26	25,232
Winter 26-27	25,614

Appendix II – Straw Proposal for Calculation of Deficiency Charges during Transition Period (though Winter 2028-29)

NOTE: This Straw Proposal is in conjunction with the Seasonal PRM/Capacity Requirement proposal currently under discussion.

Shoulder Months (***NEW***):

Define Shoulder Months for the Winter Season as ***November and March***; and for the Summer Season as ***September***.

Calculation of Forward Showing Deficiency Charges (Tariff §17.2):

Exclude Shoulder Months from the Max Monthly Deficiency (MW) for Summer and Winter (§17.2.1 and V17.2.3, respectively).

- Additional Monthly Deficiency Charges for Summer (§17.2.2) and Winter (§17.2.4) would still apply.
- Associated Deficiency Change Discounts per §17.3 would still apply to the total Deficiency Charge amounts.

If Monthly Deficiencies occur ***ONLY*** in Shoulder Months, then:

- ***ONLY*** the Additional Monthly Deficiency Charges for Summer (§17.2.2) and Winter (§17.2.4) would apply; ***AND***
- Associated Deficiency Change Discounts per §17.3 would ***NOT*** apply.

Excused Transition Deficit (ETD) Limits (Tariff §17.3):

Consider either increasing ETD limits for Shoulder Months OR exclude ETD limits altogether for Shoulder Months.

- ***Straw Proposal*** *– Set ETD limits for Shoulder Months to 200% of FSRPM through term of Transition Period (through Winter 2028-29).*

Tariff Section Language for Reference:

17.2.1 The Monthly Deficiency with the highest MW value in a Forward Showing for a Summer Season shall be assessed a Deficiency Charge equal to:

Max Summer Deficiency (MW) × Annual CONE ($/kW-year) × 1000 × Summer Season Annual CONE Factor

17.2.2 Any other Monthly Deficiency in the Participant's Forward Showing for the same Summer Season shall be assessed a Deficiency Charge equal to:

Additional Summer Deficiency (MW) × (Annual CONE ($/kW-year)/12) × 1000 × 200%

17.2.3 Any Monthly Deficiency in the Forward Showing for the immediately succeeding Winter Season with a higher MW value than the highest MW value of the Monthly Deficiency in the Summer Season shall be assessed a Deficiency Charge on the incremental MW value above the Summer Season equal to:

Maximum of (Max Winter Deficiency – Max Summer Deficiency, 0) (MW) × Annual CONE ($/kW-year) × 1000 × Winter Season Annual CONE Factor

and in such case where there is a Monthly Deficiency in the Winter Season with a higher MW value than the highest MW value of any Monthly Deficiency in the Summer Season, the Monthly Deficiency with the highest MW value in the Summer Season shall be assessed an additional Deficiency Charge calculated in accordance with Section 17.2.2.

17.2.4 Any other Monthly Deficiency in the Participant's Forward Showing Submittal for the same Winter Season shall be assessed a Deficiency Charge equal to:

Additional Winter Capacity Deficiency × (Annual CONE/12) × 1000 × 200%

Proposed Deficiency Charge Example 1

CONE Charge Base Rate:	**$ 95.00**	$-kW Year
CONE Charge Factor:	**125%**	
§17.2.1	Max Summer Deficiency (MW) × Annual CONE ($/kW-year) × 1000 × Summer Season Annual CONE Factor	
§17.2.2	Additional Summer Deficiency (MW) × (Annual CONE ($/kW-year)/12) × 1000 × 200%	
§17.2.3	Maximum of (Max Winter Deficiency – Max Summer Deficiency, 0) (MW) × Annual CONE ($/kW-year) × 1000 × Winter Season Annual CONE Factor	
§17.2.4	Additional Winter Capacity Deficiency × (Annual CONE/12) × 1000 × 200%	
§17.3.2	Discounted Deficiency Charge applied to Excused Transition Deficits (ETD):	
	75%	Reduction of FS Deficiency Charge Summer 27 and Winter 27-28
	50%	Reduction of FS Deficiency Charge Summer 28 and Winter 28-29.

EXAMPLE 1 - Monthly Capacity Deficits Across Multiple Months, Peak Month in Non-Shoulder Month

DESCRIPTION: Multiple monthly capacity deficits occur throughout each Season, with the highest deficits in non-Shoulder Months (i.e., Peak Period months). In this example, the Straw Proposal has no impact compared to the current calculation because the max deficiency in each Season is in a non-Shoulder month.

	JUN	JUL	AUG	SEP	NOV	DEC	JAN	FEB	MAR
Monthly FS Deficits - MW	-30	-50	-60	-10	-25	-35	-50	-75	-20

Summer Season Max Monthly Deficiency	**-60**	**MW**			<---§17.2.1 Billing Determinant, excl. Shoulder Months
Summer Season Max Monthly Deficiency Charge	**$7,125,000**	$ 118.75	$/kW-Mo.		<---§17.2.1 Billing Amount

	JUN	**JUL**	**AUG**	**SEP**	
Additional Summer Deficiencies - MW	**-30**	**-50**	**0**	**-10**	<---§17.2.2 Billing Determinants
Additional Summer Deficiency Charges	**$ 475,000**	**$ 791,667**	**$ -**	**$ 158,333**	<---§17.2.2 Billing Amounts
$/kW-Mo.	$ 15.83	$ 15.83	$ -	$ 15.83	

Total Summer Deficiency Charge	**$8,550,000**	$ 228.00	$/kW-Mo. Avg Rate
75% Reduction on ETD if Summer 2027	**$2,137,500**	$ 57.00	$/kW-Mo. Avg Rate
50% Reduction on ETD if Summer 2028	**$4,275,000**	$ 114.00	$/kW-Mo. Av $/kW-Mo.

Winter Season Max Monthly Deficiency	-75	MW		
Winter Season Incremental Max Monthly Deficiency	**-15**	**MW**		<---§17.2.3 Billing Determinant
Winter Season Max Monthly Deficiency Charge	**$1,781,250**	$ 118.75	$/kW-Mo.	<---§17.2.3 Billing Amount

	NOV	**DEC**	**JAN**	**FEB**	**MAR**	
Additional Winter Deficiencies - MW	**-25**	**-35**	**-50**	**0**	**-20**	<---§17.2.4 Billing Determinants
Additional Winter Deficiency Charges	**$ 395,833**	**$ 554,167**	**$ 791,667**	**$ -**	**$ 316,667**	<---§17.2.4 Billing Amounts
$/kW-Mo.	$ 15.83	$ 15.83	$ 15.83	$ -	$ 15.83	

Total Winter Deficiency Charge	**$3,839,583**	$ 93.65	$/kW-Mo. Avg Rate
75% Reduction on ETD if Winter 2027-28	**$ 959,896**	$ 23.41	$/kW-Mo. Avg Rate
50% Reduction on ETD if Winter 2028-29	**$1,919,792**	$ 46.82	$/kW-Mo. Avg Rate

Proposed Deficiency Charge Example 2

CONE Charge Base Rate:	**$ 95.00**	$-kW Year
CONE Charge Factor:	**125%**	
§17.2.1	Max Summer Deficiency (MW) × Annual CONE ($/kW-year) × 1000 × Summer Season Annual CONE Factor	
§17.2.2	Additional Summer Deficiency (MW) × (Annual CONE ($/kW-year)/12) × 1000 × 200%	
§17.2.3	Maximum of (Max Winter Deficiency – Max Summer Deficiency, 0) (MW) × Annual CONE ($/kW-year) × 1000 × Winter Season Annual CONE Factor	
§17.2.4	Additional Winter Capacity Deficiency × (Annual CONE/12) × 1000 × 200%	
§17.3.2	Discounted Deficiency Charge applied to Excused Transition Deficits (ETD):	
	75%	Reduction of FS Deficiency Charge Summer 27 and Winter 27-28
	50%	Reduction of FS Deficiency Charge Summer 28 and Winter 28-29.

EXAMPLE 2 - Monthly Capacity Deficits Across Multiple Months, Peak Month in Shoulder Months

DESCRIPTION: Multiple monthly capacity deficits occur throughout each Season, ***HOWEVER*** , the highest deficits are in Shoulder Months (i.e., Peak Period months). In this example, the Straw Proposal reduces the applicable Max Season Monthly Deficiency by excluding Shoulder Months from the max deficiency calculation.

	JUN	JUL	AUG	SEP	NOV	DEC	JAN	FEB	MAR
Monthly FS Deficits - MW	-20	-10	-15	-30	-50	-25	-10	-15	-30

Summer Season Max Monthly Deficiency	**-20**	**MW**			<---§17.2.1 Billing Determinant, excl. Shoulder Months
Summer Season Max Monthly Deficiency Charge	**$2,375,000**	$ 118.75	$/kW-Mo.		<---§17.2.1 Billing Amount

	JUN	**JUL**	**AUG**	**SEP**	
Additional Summer Deficiencies - MW	**0**	**-10**	**-15**	**-30**	<---§17.2.2 Billing Determinants
Additional Summer Deficiency Charges	**$ -**	**$ 158,333**	**$ 237,500**	**$ 475,000**	<---§17.2.2 Billing Amounts
$/kW-Mo.	$ -	$ 15.83	$ 15.83	$ 15.83	

Total Summer Deficiency Charge	**$3,245,833**	$ 173.11	$/kW-Mo. Avg Rate
75% Reduction on ETD if Summer 2027	**$ 811,458**	$ 43.28	$/kW-Mo. Avg Rate
50% Reduction on ETD if Summer 2028	**$1,622,917**	$ 86.56	$/kW-Mo. Av $/kW-Mo.

Winter Season Max Monthly Deficiency	-25	MW		
Winter Season Incremental Max Monthly Deficiency	**-5**	**MW**		<---§17.2.3 Billing Determinant
Winter Season Max Monthly Deficiency Charge	**$ 593,750**	$ 118.75	$/kW-Mo.	<---§17.2.3 Billing Amount

	NOV	**DEC**	**JAN**	**FEB**	**MAR**	
Additional Winter Deficiencies - MW	**-50**	**0**	**-10**	**-15**	**-30**	<---§17.2.4 Billing Determinants
Additional Winter Deficiency Charges	**$ 791,667**	**$ -**	**$ 158,333**	**$ 237,500**	**$ 475,000**	<---§17.2.4 Billing Amounts
$/kW-Mo.	$ 15.83	$ -	$ 15.83	$ 15.83	$ 15.83	

Total Winter Deficiency Charge	**$2,256,250**	$ 86.78	$/kW-Mo. Avg Rate
75% Reduction on ETD if Winter 2027-28	**$ 564,063**	$ 21.69	$/kW-Mo. Avg Rate
50% Reduction on ETD if Winter 2028-29	**$1,128,125**	$ 43.39	$/kW-Mo. Avg Rate

Proposed Deficiency Charge Example 3

CONE Charge Base Rate:	**$ 95.00**	$-kW Year
CONE Charge Factor:	**125%**	
§17.2.1	Max Summer Deficiency (MW) × Annual CONE ($/kW-year) × 1000 × Summer Season Annual CONE Factor	
§17.2.2	Additional Summer Deficiency (MW) × (Annual CONE ($/kW-year)/12) × 1000 × 200%	
§17.2.3	Maximum of (Max Winter Deficiency – Max Summer Deficiency, 0) (MW) × Annual CONE ($/kW-year) × 1000 × Winter Season Annual CONE Factor	
§17.2.4	Additional Winter Capacity Deficiency × (Annual CONE/12) × 1000 × 200%	
§17.3.2	Discounted Deficiency Charge applied to Excused Transition Deficits (ETD):	
	75%	Reduction of FS Deficiency Charge Summer 27 and Winter 27-28
	50%	Reduction of FS Deficiency Charge Summer 28 and Winter 28-29.

EXAMPLE 3 - Monthly Capacity Deficits in Shoulder Months *ONLY*

DESCRIPTION: Capacity deficits occur in Shoulder Months ***ONLY***. In this example, the Straw Proposal has the biggest impact on reducing the calculated Deficiency Charges by excluding the Shoulder Months in the Max Deficiency and only applying the additional deficency charges to these months.

	JUN	JUL	AUG	SEP	NOV	DEC	JAN	FEB	MAR
Monthly FS Deficits - MW				-30	-50				-30

Summer Season Max Monthly Deficiency	**0**	**MW**		<---§17.2.1 Billing Determinant, excl. Shoulder Months
Summer Season Max Monthly Deficiency Charge	**$ -**	$ -	$/kW-Mo.	<---§17.2.1 Billing Amount

	JUN	**JUL**	**AUG**	**SEP**	
Additional Summer Deficiencies - MW	**0**	**0**	**0**	**-30**	<---§17.2.2 Billing Determinants
Additional Summer Deficiency Charges	**$ -**	**$ -**	**$ -**	**$ 475,000**	<---§17.2.2 Billing Amounts
$/kW-Mo.	$ -	$ -	$ -	$ 15.83	

Total Summer Deficiency Charge	**$ 475,000**	$ 15.83	$/kW-Mo. Avg Rate
75% Reduction on ETD if Summer 2027	**$ -**	$ -	$/kW-Mo. Avg Rate
50% Reduction on ETD if Summer 2028	**$ -**	$ -	$/kW-Mo. Av $/kW-Mo.

Winter Season Max Monthly Deficiency	0	MW		
Winter Season Incremental Max Monthly Deficiency	**0**	**MW**		<---§17.2.3 Billing Determinant
Winter Season Max Monthly Deficiency Charge	**$ -**	$ -	$/kW-Mo.	<---§17.2.3 Billing Amount

	NOV	**DEC**	**JAN**	**FEB**	**MAR**	
Additional Winter Deficiencies - MW	**-50**	**0**	**0**	**0**	**-30**	<---§17.2.4 Billing Determinants
Additional Winter Deficiency Charges	**$ 791,667**	**$ -**	**$ -**	**$ -**	**$ 475,000**	<---§17.2.4 Billing Amounts
$/kW-Mo.	$ 15.83	$ -	$ -	$ -	$ 15.83	

Total Winter Deficiency Charge	**$1,266,667**	$ 31.67	$/kW-Mo. Avg Rate
75% Reduction on ETD if Winter 2027-28	**$ -**	$ -	$/kW-Mo. Avg Rate
50% Reduction on ETD if Winter 2028-29	**$ -**	$ -	$/kW-Mo. Avg Rate

Current Deficiency Charge Example

CONE Charge Base Rate:	**$ 95.00**	$-kW Year
CONE Charge Factor:	**125%**	
§17.2.1	Max Summer Deficiency (MW) × Annual CONE ($/kW-year) × 1000 × Summer Season Annual CONE Factor	
§17.2.2	Additional Summer Deficiency (MW) × (Annual CONE ($/kW-year)/12) × 1000 × 200%	
§17.2.3	Maximum of (Max Winter Deficiency – Max Summer Deficiency, 0) (MW) × Annual CONE ($/kW-year) × 1000 × Winter Season Annual CONE Factor	
§17.2.4	Additional Winter Capacity Deficiency × (Annual CONE/12) × 1000 × 200%	
§17.3.2	Discounted Deficiency Charge applied to Excused Transition Deficits (ETD):	
	75%	Reduction of FS Deficiency Charge Summer 27 and Winter 27-28
	50%	Reduction of FS Deficiency Charge Summer 28 and Winter 28-29.

CURRENT DEFICIENCY CHARGE CALCULATION EXAMPLE

DESCRIPTION: This is an example of how the current Deficiency Charges are calculated for each season, and the associated available dicounts during the Transition Period.

	JUN	JUL	AUG	SEP	NOV	DEC	JAN	FEB	MAR
Monthly FS Deficits - MW	-20	-10	-15	-30	-50	-25	-10	-15	-30

Summer Season Max Monthly Deficiency	**-30**	**MW**			<---§17.2.1 Billing Determinant, excl. Shoulder Months
Summer Season Max Monthly Deficiency Charge	**$3,562,500**	$ 118.75	$/kW-Mo.		<---§17.2.1 Billing Amount

	JUN	**JUL**	**AUG**	**SEP**	
Additional Summer Deficiencies - MW	**-20**	**-10**	**-15**	**0**	<---§17.2.2 Billing Determinants
Additional Summer Deficiency Charges	**$ 316,667**	**$ 158,333**	**$ 237,500**	**$ -**	<---§17.2.2 Billing Amounts
$/kW-Mo.	$ 15.83	$ 15.83	$ 15.83	$ -	

Total Summer Deficiency Charge	**$4,275,000**	$ 228.00	$/kW-Mo. Avg Rate
75% Reduction on ETD if Summer 2027	**$1,068,750**	$ 57.00	$/kW-Mo. Avg Rate
50% Reduction on ETD if Summer 2028	**$2,137,500**	$ 114.00	$/kW-Mo. Av $/kW-Mo.

Winter Season Max Monthly Deficiency	-50	MW			
Winter Season Incremental Max Monthly Deficiency	**-20**	**MW**			<---§17.2.3 Billing Determinant
Winter Season Max Monthly Deficiency Charge	**$2,375,000**	$ 118.75	$/kW-Mo.		<---§17.2.3 Billing Amount

	NOV	**DEC**	**JAN**	**FEB**	**MAR**	
Additional Winter Deficiencies - MW	**0**	**-25**	**-10**	**-15**	**-30**	<---§17.2.4 Billing Determinants
Additional Winter Deficiency Charges	**$ -**	**$ 395,833**	**$ 158,333**	**$ 237,500**	**$ 475,000**	<---§17.2.4 Billing Amounts
$/kW-Mo.	$ -	$ 15.83	$ 15.83	$ 15.83	$ 15.83	

Total Winter Deficiency Charge	**$3,641,667**	$ 140.06	$/kW-Mo. Avg Rate
75% Reduction on ETD if Winter 2027-28	**$ 910,417**	$ 35.02	$/kW-Mo. Avg Rate
50% Reduction on ETD if Winter 2028-29	**$1,820,833**	$ 70.03	$/kW-Mo. Avg Rate