

Planning Year 2026-2027

Indicative DLOL-Based Unforced Capacity and Planning Reserve Margin Requirement Results

Highlights

- MISO will transition to the Direct Loss of Load (DLOL) capacity accreditation methodology beginning with the 2028-2029 planning year. The shift supports better reflection of resource contributions during critical hours with periods of system stress. Indicative accreditation results will be shared until the DLOL methodology is implemented. This document provides DLOL based resource class-level accreditation values and Planning Reserve Margin Requirements (PRMR) for PY 2026/27, that will inform stakeholders for planning purposes.

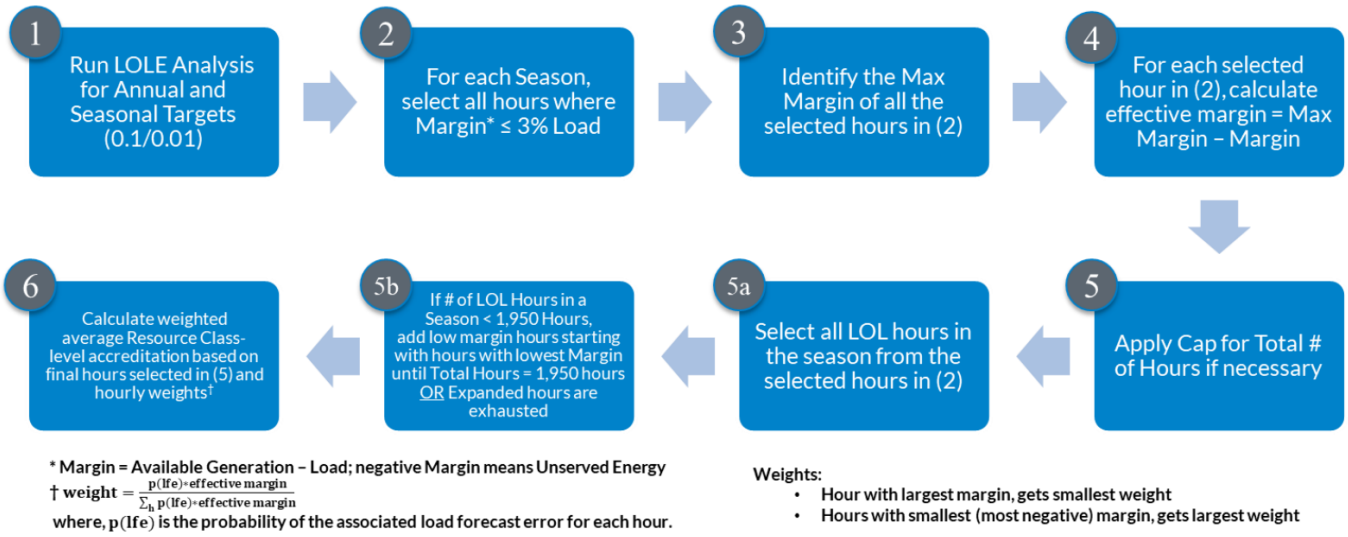
- The DLOL-based accreditation reflects performance during critical hours (time-of-day risk and duration of events), not average conditions. DLOL-based UCAP values for thermal resources are lower in non-summer seasons as planned maintenance and cold weather outages occurred during Critical Hours. Solar DLOL-based UCAP is lower in non-summer seasons because the Critical Hours occur in early morning and late evening, outside of daytime hours. Storage DLOL-based UCAP changes over the seasons as the duration of events changes; the 4-hour batteries perform best during Critical hours if events are less than 5 hours in duration.

- The DLOL method accredits resource classes based upon performance during Critical Hours in the LOLE model. As a result, the accredited capacity and the Planning Reserve Margin Requirement (PRMR)are lower for PY 2026/27 compared to the current methodology. The lower requirement does not reflect more or less reliability, but indicates that the Critical Hours in the LOLE model may not overlap with the peak load hours in the model.

Introduction

In compliance with Schedule 53A of the MISO Tariff, MISO performed indicative Resource Class-level UCAP and PRMR calculations, using the Planning Year 2026-2027 Loss of Load Expectation (LOLE) study model. Indicative LRRs and indicative Schedule 53A Seasonal Accredited Capacity (SAC) values for resources will be made available prior to April 2025.

The Direct Loss of Load (DLOL) methodology will be first implemented in the Planning Year 2028-2029. MISO published a Resource Accreditation White Paper which describes the methodology in detail. A summary of the class-level UCAP calculation steps from the white paper are provided in the diagram below. The DLOL accreditation method measures resource performance in the LOLE model's riskiest hours.



Direct Loss of Load calculation process diagram (Source: Resource Accreditation White Paper Version 2.1)

Indicative Resource Class-level UCAP (DLOL) Results

Indicative Resource Class-level UCAP based upon the DLOL methodology and expressed as a percentage of installed capacity (ICAP) are presented in the table below.[1]

PY 2026-2027	DLOL-Based UCAP %				ICAP				Count of Units
	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	End of PY
Biomass	90%	82%	84%	82%	452	462	459	437	33
Coal	88%	72%	69%	63%	35,952	35,714	36,170	32,758	145
Combined Cycle	95%	77%	74%	71%	27,686	28,608	30,987	30,022	142
Dual Fuel Oil/Gas	89%	73%	67%	71%	7,335	7,686	7,928	7,546	72
Gas	91%	73%	63%	64%	28,195	29,381	31,924	29,674	415
Nuclear	95%	85%	85%	78%	11,375	11,479	11,719	12,366	17
Oil	84%	77%	52%	56%	1,206	1,207	1,189	1,192	133
Pumped Storage	96%	74%	85%	68%	2,628	2,671	2,594	2,632	14
Reservoir Hydro	97%	87%	94%	87%	476	448	459	473	29
Run-of-River Hydro	93%	83%	86%	78%	768	604	701	798	66
Solar	40%	4%	2%	7%	18,772	19,782	24,162	25,141	347
Storage	55%	70%	74%	99%	1,114	1,134	1,475	1,733	67
Wind	7%	12%	24%	15%	29,338	29,358	30,111	30,111	312

The storage accreditation is based upon the Even Loss methodology as presented in the April 2025 Resource Adequacy Subcommittee.

[1] ICAP is the lesser of Generator Verification Test Capacity (GVTC) and interconnection service.

Indicative PRMR (DLOL) Results

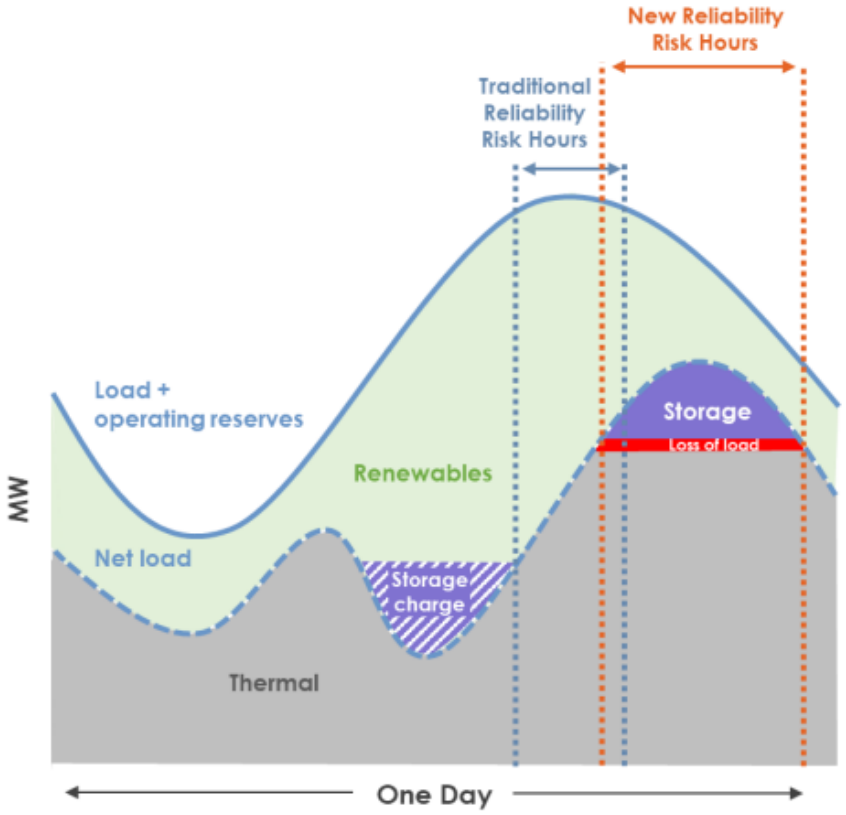
Indicative Resource Class-level UCAP in MW and the PRMR based upon the Direct Loss of Load (DLOL) methodology are presented in the table below.

PY 2026-2027	Summer	Fall	Winter	Spring	Formula Key
DLOL-Based UCAP MW					
Biomass	408	380	387	356	[A]
Coal	31,754	25,890	24,901	20,734	[B]
Combined Cycle	26,423	22,082	22,969	21,205	[C]
Dual Fuel Oil/Gas	6,496	5,635	5,299	5,369	[D]
Gas	25,730	21,336	20,133	19,079	[E]
Nuclear	10,814	9,724	9,937	9,625	[F]
Oil	1,012	928	618	662	[G]
Pumped Storage	2,528	1,972	2,212	1,798	[H]
Reservoir Hydro	459	390	429	411	[I]
Run-of-River Hydro	716	501	600	624	[J]
Solar	7,512	873	596	1,651	[K]
Storage	609	798	1,097	1,709	[L]
Wind	2,150	3,466	7,241	4,409	[M]
Total Unforced Capacity	116,611	93,973	96,419	87,633	[N] = Sum of [A] thru [M]
Adjustment to Calibrated LOLE	-1,440	-7,550	-1,440	-1,820	[O]
Firm External Support UCAP	3,377	2,645	2,760	2,517	[P]
BTMG	4,334	3,831	3,301	4,236	[Q]
Demand Response	8,162	6,649	6,798	6,708	[R]
MISO UCAP PRMR (MW)	131,044	99,548	107,837	99,274	[S] = Sum of [N] thru [R]
MISO System Peak Demand (MW)	125,531	111,042	106,248	101,854	[T]
MISO UCAP PRM (%)	4.4%	-10.4%	1.5%	-2.5%	[U] = ([S] – [T]) / [T]

The PRM value, whether positive or negative, is merely a function of the demand used in the calculation. Since the calculation uses peak demand, the PRM will be positive if required supply is higher than peak demand and negative if it is lower. The PRMs for Fall and Spring are negative because the UCAP PRMR is lower than the MISO system peak demand for those respective seasons.

The DLOL based resource class accreditation and PRMR are calculated using the same LOLE analysis as it is performed today, including the calibration to the same LOLE target. Thus, the lower PRMs are not an indication of lower system reliability. Instead, it is an indication that the Critical Hours in the LOLE model may not overlap with the peak load hours in the model. The figure below presents an illustration of the shifting system risk that is a result of increased renewables on the system. The new reliability risk hours, compared to the traditional hours, occur later in the day, during net load peak instead of gross load peak.

Figure 1: Illustration of Changing Loss-of-Load Dynamics in the Evolving Electricity System



Source: Prepared by E3 for FERC DLOL testimony, March 2024

Local Reliability Requirement (LRR) Results

Local Resource Zone (LRZ)	LRZ-1 MN/ND	LRZ-2 WI	LRZ-3 IA	LRZ-4 IL	LRZ-5 MO	LRZ-6 IN	LRZ-7 MI	LRZ-8 AR	LRZ-9 LA/TX	LRZ-10 MS
PY 26-27 Indicative DLOL Local Reliability Requirements										
Summer	89.3%	105.4%	101.8%	128.6%	124.7%	115.8%	107.5%	134.1%	114.4%	134.9%
Fall	88.0%	88.3%	106.7%	103.3%	114.7%	103.7%	99.0%	119.9%	105.5%	115.1%
Winter	95.9%	103.4%	121.9%	118.4%	119.1%	99.5%	109.6%	139.7%	110.2%	129.4%
Spring	89.4%	89.0%	105.2%	119.7%	121.4%	94.8%	99.1%	145.2%	100.1%	134.2%