# Capacity Demonstration Results

## Planning Year 2027/28

Case No. U-21393

May 10, 2024

**MPSC Staff**

# Contents

## Executive Summary

All Michigan load serving entities (LSE)s required to file capacity demonstrations with the Michigan Public Service Commission (MPSC) for planning year 2027/28 pursuant to MCL 460.6w and the July 26, 2023 Commission Order in Case No. U-21393 have filed. Staff has audited the filings, contracts, and other materials and finds that all Michigan LSEs have satisfied the capacity demonstration requirements and have procured appropriate levels of resources for planning year 2027/28. This is the first year in which LSEs are required to demonstrate capacity for each of the four seasons using the different seasonal obligations at MISO. More detail on this is included in the MISO Resource Adequacy section of this report.

Staff projects that the Midcontinent Independent System Operator, Inc. (MISO) Local Resource Zone (LRZ) 7, which consists of Michigan's lower peninsula excluding the southwest corner of the state located in Indiana Michigan Power (I&M)'s service territory, will have sufficient resources to meet its planning reserve margin requirements and local clearing requirements (LCR) in all four seasons for the compliance year (2027/28) based on the filed capacity demonstrations and information from MISO available at the time of this report. For MISO LRZ 1 and LRZ 2, the majority of which are in other states not subject to MCL 460.6w, Staff does not have sufficient detail to project the capacity positions of these zones. Based on the most recent OMS-MISO Survey, both zones are projected to have sufficient capacity to meet PRMR and LCR for planning year 2028/29 but margins are tightening and capacity additions may be needed for winter and fall in LRZ 1 and fall in LRZ 2.[1] Comparing the OMS-MISO Survey results with 2024/25 MISO PRA outcomes, the PRA is showing higher surplus capacity than reflected in the survey projection, the difference driven primarily by deferred retirements. Staff projects that the I&M service territory in Michigan will have sufficient capacity to meet PJM's requirements for the prompt and compliance years.

MISO's 2024/25 Planning Resource Auction (PRA) results[2] indicate that, system-wide, capacity is tightening in all seasons except winter. The capacity surplus in summer has lessened by 30%, primarily in the North/Central region, due to retirements, reduced imports, and higher requirements that have not been offset by new installed capacity additions. Trends in the other seasons are similar, except in winter where there is a small increase in excess capacity. MISO continues to reform its resource adequacy construct under the Reliability Imperative to address the emerging risks due to fleet transition, new load additions, and retirements of dispatchable units.

[1] 2023 OMS-MISO Survey Results, July 14, 2023.
[2] MISO 2024/25 PRA Auction Results, April 25, 2024

## Background

On September 15, 2017, in Case No. U-18197, the Commission directed all Michigan LSEs to file capacity demonstrations annually pursuant to MCL 460.6w. This report outlines the results of the capacity demonstrations filed for planning year 2027/28 as directed by the Commission in Case No. U-21393 and represents the seventh annual capacity demonstration report. Prior year capacity demonstration reports can be found in the following dockets:

- 2021/22: Case No. U-18441
- 2022/23: Case No. U-20154
- 2023/24: Case No. U-20590
- 2024/25: Case No. U-20886
- 2025/26: Case No. U-21099
- 2026/27: Case No. U-21225

In Case No. U-21393, for the 2027/28 planning year, the Commission ordered[3] investor-owned utilities with one million or more customers[4] to file capacity demonstrations by February 15, 2024, investor-owned utilities with less than one million customers[5] by March 1, 2024, and Alternative Electric Suppliers (AES),[6] cooperatives (co-ops), and municipal utilities on or before March 15, 2024. Due to changes to the MISO PRA schedule regarding calculation and publication of final UCAP/ISAC ratios, the Commission issued an order[7] extending the filing deadline for larger investor-owned utilities' capacity demonstrations one week longer from Feb 15, 2024, to Feb 22, 2024.

The purpose of these demonstrations is to ensure that each electric utility owns or has contractual rights to capacity sufficient to meet its capacity obligations as set by the MISO, PJM, or the Commission, as required by MCL 460.6w.

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[3] July 26, 2023 MPSC Order in Case No. U-21393, accessed 01/10/2024.

[4] Consumers Energy Company, DTE Electric Company, Indiana Michigan Power Company.

[5] Alpena Power Company, Northern States Power Company-Wisconsin, Upper Michigan Energy Resources Corporation, and Upper Peninsula Power Company.

[6] AEP Energy Inc, BP Energy Retail Company, LLC, Calpine Energy Solutions LLC f/k/a Noble Americas Energy Solutions LLC, CMS ERM Michigan LLC, Constellation NewEnergy Inc, Dillon Power LLC, Direct Energy Services LLC aka NRG Energy Inc., , Energy Harbor LLC, Energy International Power Marketing Corporation, Energy Services Providers Inc., ENGIE Power & Gas f/k/a Plymouth Rock Energy LLC, Interstate Gas Supply LLC, Just Energy Solutions Inc, MidAmerican Energy Services LLC, Nordic Energy Services LLC, Spartan Renewable Energy, U.P. Power Marketing LLC, and Wolverine Power Marketing Cooperative Inc.

[7] January 18, 2024 Order in Case No. U-21393, accessed 02/21/2024.

## Pre-Demonstration Process

As with previous years, Staff offered LSEs the opportunity to meet with Staff to discuss the capacity demonstration requirements and review relevant materials prior to the final filing deadlines. A significant number of LSEs met with Staff remotely and clarified the process before filing reports in the docket. Staff found that the pre-filing consultations were helpful in resolving questions prior to filing. Staff will continue to offer pre-filing consultations each year to resolve potential issues prior to the filing deadlines.

## Capacity Demonstration Filings

On or before February 22, 2024, capacity demonstrations were received from DTE Electric Company and Consumers Energy Company. On or before March 1, 2024, capacity demonstration filings were received from Alpena Power Company, Indiana Michigan Power Company, Northern States Power Company, Upper Michigan Energy Resources Corporation (UMERC), and Upper Peninsula Power Company (UPPCO). Many LSEs filed confidential information under seal as part of the electric utilities' filings. Staff reviewed this information and met with LSEs as needed.

On or before March 15, 2024, capacity demonstration filings were received from Bayfield Electric, Calpine Energy Solutions, LLC., City of Escanaba, City of Stephenson, City of Wakefield, CMS ERM, Constellation New Energy Inc., Croswell Light and Power, Daggett Electric Department, Direct Energy Services LLC, Energy Harbor, Just Energy Solutions, Michigan Public Power Agency, Michigan South Central Power Agency, Newberry Water and Light Board, Thumb Electric Cooperative, Union City Electric Department, UP Power Marketing, Wolverine Power Supply Cooperative, and WPPI Energy.

All LSEs were able to procure the necessary capacity to demonstrate compliance for the current planning year in all four seasons. Leading up to the capacity demonstration filings, Staff had several conversations with one LSE discussing their peak load contribution, which will be further discussed in the AES Peak Load Contribution section.

Several AESs filed letters in Case No. U-21393 indicating that they are currently not serving customers in Michigan.[8] The only non-serving AES that did not file such letter was Energy International Power Marketing, however it filed in the previous year's capacity demonstration in Case No. U-21225 indicating that it is serving no customers and continues to not have any Michigan customers.

[8] AEP Energy Inc., BP Energy Retail Company, LLC, Dillion Power LLC, Direct Energy Services, Energy Services Providers, Inc., Interstate Gas Supply LLC, Just Energy, ENGIE Power and Gas, MidAmerican Energy Services LLC, Nordic Energy Services LLC, and UP Power Marketing.

Staff conducted an audit for each capacity demonstration filing received and requested additional information from the LSEs when necessary. Staff has reviewed all contracts included in capacity demonstrations from AESs as well as most of the contracts from co-ops, electric utilities, and municipalities. In addition to the required compliance year (PY 2027/28), most demonstrations included updates for the 2024/25 planning year through the 2027/28 planning year. [9] The order opening the docket in U-21393 directed all entities to file data for the prompt and interim years, as well as the compliance year. Most entities complied but some of the municipal and cooperative utilities continued to only provide information for the compliance year (PY 2027/28). For these entities, Staff was able to estimate the amount of capacity available for the prompt year and interim years by projecting the amount included for planning year 2027/28 backwards for three years.

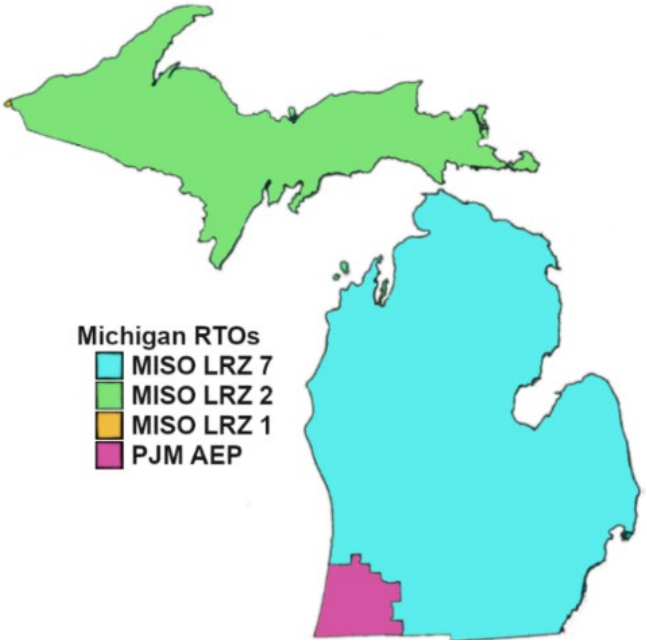
Staff recommends the Commission continue to direct all LSEs to include updated prompt year and interim year capacity obligation and resource information in future filings. Staff uses this information to help track changes in load and resources and to project the zonal resource adequacy more closely in these years.

[9] The required demonstrations for planning years 2025/2026 and 2026/27 were made in the 2022 capacity demonstration (Case No. U-21099) and the 2023 capacity demonstration (Case No. U-21225).

## Overview of Zonal Adequacy

Michigan contains load that spans two regional transmission operators (RTO): MISO and PJM. The majority of Michigan's load is located within MISO and is split between several LRZs. The exception is the Southwest corner of the Lower Peninsula which is located within the PJM RTO through I&M's service territory. PJM and MISO have different resource adequacy constructs and capacity obligations. The different RTO regions in Michigan are illustrated in Figure 1.

**Figure 1: RTO Zonal Regions in Michigan**



## MISO Resource Adequacy

Michigan LSEs serve load in MISO Local Resource Zones 1, 2, and 7. MISO's capacity construct is for the upcoming year (prompt year) only. LSEs must demonstrate sufficient resources to meet their current prompt year requirement four years forward to comply with MCL 460.6w.

MISO establishes capacity obligations for all LSEs based on peak load forecasts and a planning reserve margin percentage necessary to meet the North American Electric Reliability Corporation's (NERC) Loss of Load Expectation (LOLE) standard of 1 day in 10 years. LSEs within MISO can meet their capacity requirements either through a Fixed Resource Adequacy Plan (FRAP) or through the Planning Resource Auction (PRA). The PRA is a residual market for LSEs that choose not to use the FRAP or do not have enough capacity resources, either owned or purchased bilaterally, to satisfy their capacity obligations, and thus need to purchase additional resources.

Within MISOs resource adequacy construct, the Planning Reserve Margin Requirement and the LCR must be satisfied to meet the LOLE. The PRMR is determined through LOLE modeling based on the coincident MISO peak forecast and resources adjusted as necessary to meet the standard. PRMR resources are not location specific, i.e. they can come from outside an LSE's zone. Individual LSEs are responsible for their own share of the zone's PRMR. The ability to use imports to meet PRMR makes it likely all zones will meet this requirement. Failure to meet PRMR would only occur if there were not enough resources available within all of MISO's footprint.

The LCR is the minimum capacity for a zone required to be located within the zone to meet the LOLE standard, while accounting for the LRZ's ability to import. The LCR is for the entire zone collectively, and not a requirement for individual LSEs; there is currently no LCR requirement applicable to individual LSEs in Michigan pursuant to MCL 460.6w. The LCR is determined by performing a LOLE analysis on each zone individually to determine the Local Reliability Requirement (LRR), or the resources a zone would need to meet the loss-of-load standard if it were separated from MISO. Separately, an import study is performed to determine the Zonal Import Ability (ZIA) for each zone. For LRZ 7, the ZIA has historically been equal to the capacity import limit (CIL) and the terms are often treated synonymously. However, this year the ZIA for zone 7 is 10MW lower than the CIL in the summer and fall seasons. The ZIA is then subtracted from the LRR to determine the LCR.

If an LRZ doesn't have enough resources to meet its LCR or PRMR, the PRA clearing price would be set at the Cost of New Entry (CONE). CONE varies from zone to zone and changes from year to year but for reference, for 2024/25 CONE is $127,135 MW-year ($348.32 MW-day) in Zone 7.[10] The PRA clearing price being set at CONE would have economic ramifications and should provide a signal to entities with responsibilities regarding resource adequacy within the zone. However, it is important to note that MISO's resource adequacy construct is based on probabilistic

[10] 2023-10-05 CONE Annual Filing630452.pdf (misoenergy.org)

determinations and failure to meet the requirements of the resource adequacy construct would not mean that the LRZ in question will experience a loss of load event. It simply means the probability of such a loss of load event would exceed the generally accepted criteria that govern the resource adequacy planning process.

In November of 2021, MISO submitted a proposal to FERC Docket No. ER22-495-000[11] to revise its Open Access Transmission, Energy and Operating Reserve Markets Tariff, which was approved in August 2022.[12] This tariff revision established a seasonal resource adequacy requirement for each summer, fall, winter and spring season and a seasonal accredited capacity (SAC) methodology for certain resources participating in MISO's PRA to align with real time availability and planned outages. MISO explained that these changes are necessary to ensure future operation reliability due to an increase in system wide maximum generation emergency events outside of the traditional summer peak. Staff reviewed these changes with participants in its 2022 and 2023 technical conferences as a part of the Commission's June 22, 2022 Order in U-21099, and results of these activities included requiring entities to file capacity demonstrations showing resources to meet obligations in all four seasons, modifications to the filing timeline, and adoption of ISO-neutral language into the process and requirements. For PY 2023/24, LSEs were given the option to demonstrate capacity for 2026/27 using the different seasonal obligations at MISO or to assume summer obligations and resource values applied to the entire year. For PY 2024/25, the Commission's July 26, 2023 Order in U-21393 directs LSEs in the Midwest Independent System Operator (MISO) to demonstrate seasonal capacity obligation based on the MISO seasonal resource adequacy construct. LSEs will be obligated to demonstrate enough capacity (owned or contracted) to meet the LSE's capacity obligation for each season. The specific capacity obligation for each season will be the LSE's prompt year (upcoming year) Planning Reserve Margin Requirement for each respective season. These changes better align the state capacity demonstration pursuant to MCL 460.6w with MISO's recent RA seasonal construct changes and allow for greater clarity in examination of the projected capacity position.

MISO has recently filed two tariff revisions that will affect its resource adequacy construct, including a reliability-based demand curve (RBDC) to be used in the planning resource auction (FERC Docket ER23-2977-000 filed 9/29/2023), and revisions to implement a direct loss of load (DLOL) accreditation methodology (FERC Docket ER24-1638-000 filed 3/28/2024). Other changes under discussion in MISO subcommittee workgroups include revising LMR accreditation (target for tariff filing Q3 2024) and amending rules of participation for demand response resources (proposing filing by end of 2024).

The compliance year capacity obligations (PY 2027/28) that are demonstrated for in this case are based off an LSE's prompt year (PY 2024/25) requirement. Changes to load, resources, and MISO procedures in the upcoming years can lead to discrepancies between an LRZ having sufficient

[11] MISO Seasonal Construct tariff filing, Markets Tariff filing, FERC Docket ER22-495-000, November 2021.
[12] 180 FERC 61,141, August 2022.

capacity to meet its four-year forward Michigan requirements and not having enough capacity to meet MISO's requirements when the prompt year arrives.

## MISO – Local Resource Zone 7

Figure 2 shows historical annual MISO capacity requirements for LRZ 7. This data is taken from the respective annual MISO LOLE Study Reports.

**Figure 2: Annual MISO LOLE Report Data LRZ 7**

| Planning Year | Source | LRR[13] | CIL[14] | LCR (ZRCs)[15] |
|---|---|---|---|---|
| 2013/14 | MISO 2013 LOLE Report | 25,305 | 4,576 | 20,729 |
| 2014/15 | MISO 2014 LOLE Report | 24,815 | 3,884 | 20,931 |
| 2015/16 | MISO 2015 LOLE Report | 24,710 | 3,813 | 20,897 |
| 2016/17 | MISO 2016 LOLE Report | 24,715 | 3,813 | 21,309 |
| 2017/18 | MISO 2017 LOLE Report | 24,654 | 3,320 | 21,334 |
| 2018/19 | MISO 2018 LOLE Report | 24,545 | 3,785 | 20,760 |
| 2019/20 | MISO 2019 LOLE Report | 24,845 | 3,211 | 21,634 |
| 2020/21 | MISO 2020 LOLE Report | 25,370 | 3,200 | 22,170 |
| 2021/22 | MISO 2021 LOLE Report | 25,054 | 4,888 | 20,166 |
| 2022/23 | MISO 2022 LOLE Report | 24,115 | 3,749 | 20,366 |
| 2023/24[16] | MISO 2023 LOLE Report | 24,428 | 5,087 | 19,341 |

These numbers typically change slightly between the LOLE Study and the PRA, primarily due to updated load forecasting used in the PRA but can be used to see how the capacity requirements have changed over time. Changes in these requirements can have economic and reliability impacts and will continue to be monitored.

In its seasonal construct, MISO includes an LRR, ZIA, and PRMR for each zone for each season. The current year MISO requirements are included in Figure 3 below.

[13] **Local Reliability Requirement**. Representative of the resources required for LRZ 7 to meet the LOLE standard when modeled as an island (no imports). MISO Loss of Load Expectation Study Report, Table 6-1: LRZ Local Reliability Requirements.

[14] **Capacity Import Limit**. Representative of the ability of an LRZ to import capacity from areas outside of that LRZ. MISO Loss of Load Expectation Study Report, Tables ES-1 through ES-4: Initial Planning Resource Auction Deliverables. Historically equal to ZIA in MISO LRZ 7.

[15] **Local Clearing Requirement**. Representative of the minimum resources that must be located within a specific zone for that zone to meet the reliability standard. The difference between the LRR and the CIL.

[16] 2023/24 values for summer season shown. Other seasons shown in Appendix B.

## Figure 3: Seasonal MISO PRA Results Data LRZ 7

| Planning Year | Season | LRR | ZIA | LCR |
|---|---|---|---|---|
| 2024/25 | Summer | 23,761 | 4,490 | 19,271 |
| 2024/25 | Fall | 23,833 | 4,390 | 19,443 |
| 2024/25 | Winter | 22,253 | 4,656 | 17,597 |
| 2024/25 | Spring | 21,255 | 4,883 | 16,372 |

The difference between a zone's PRMR and its LCR is sometimes referred to as Effective Capacity Import Limit (ECIL). The ECIL is not a MISO defined term and is not representative of a physical import limitation. To meet the loss of load standard and avoid the auction clearing price being set at CONE, a zone must have enough resources located within the zone to meet its LCR even if the LCR exceeds the PRMR.

Figure 4 shows a comparison of LRZ 7 aggregated resources demonstrated, plus known undemonstrated resources likely to still be available, for each season in the 2027/28 planning year and MISO's resource adequacy requirement for PY 2024/25. Previous demonstrations that did not examine seasonal capacity position included this chart for the next 4 years. These charts are included in this year's filing as supplemental data in Appendix C. These numbers represent Staff's current projection based on the capacity demonstration filings and MISO publications at the time of this report although the information is subject to change for all forward years. Unless otherwise noted, resources and resource requirements in this report are in Unforced Capacity (UCAP) Megawatts (MW), equal to Zonal Resource Credits (ZRCs).

## Figure 4: U-21393 Results – PY 2027/28 LRZ 7 Capacity Position (ZRCs)

| Line # | | Summer | Autumn | Winter | Spring |
|---|---|---|---|---|---|
| 1 | Planning Reserve Margin Requirements (PRMR) | 21,565 | 19,893 | 17,366 | 19,670 |
| 2 | Local Reliability Requirement (LRR) | 23,771 | 23,843 | 22,253 | 21,255 |
| 3 | Capacity Import Limit (CIL) | 4,500 | 4,400 | 4,656 | 4,883 |
| 4 | Zonal Import Ability (ZIA) | 4,490 | 4,390 | 4,656 | 4,883 |
| 5 | Local Clearing Requirement (LCR) (L1-L4) | 19,271 | 19,443 | 17,597 | 16,372 |
| 6 | Total Owned | 17,880 | 17,703 | 17,490 | 17,869 |
| 7 | Total PPA Contracts | 4,329 | 4,218 | 3,404 | 4,758 |
| 8 | Total ZRC Contracts | 423 | 399 | 332 | 396 |
| 9 | Total Qualified Demand Response | 1,871 | 635 | 774 | 767 |
| 10 | Total Resources (sum of L6 through L9) | 24,502 | 22,954 | 22,000 | 23,790 |
| 11 | LCR Demonstrated Position (L10-L5) | 5,231 | 3,511 | 4,403 | 7,418 |
| 12 | PRMR Demonstrated Position (L10-L1) | 2,937 | 3,061 | 4,634 | 4,120 |
| 13 | Net Undemonstrated Capacity | 436 | 485 | 587 | 478 |
| 14 | Anticipated LCR Position (L11+L13) | 5,667 | 3,997 | 4,990 | 7,896 |
| 15 | Anticipated PRMR Position (L12+L13) | 3,373 | 3,547 | 5,221 | 4,598 |

*(1) PY 2024 PRMR from PRA Data and held constant at prompt year value.*

*(2) PY 2024 LRR from PRA Data and held constant at prompt year value (LRR=LCR+ZIA).*

*(3) PY 2024 CIL from PRA Data and held constant at prompt year value.*

*(4) PY 2024 LCR from PRA Data and held constant at prompt year value.*

*(5-9) Zone 7 resources included in capacity demonstrations sorted by resource type.*

*(10) LCR position based on demonstrated resources only.*

*(11) PRMR position based on demonstrated resources only.*

*(12) Net Undemonstrated Zone 7 Capacity is Staff's attempt to reconcile the capacity demonstration resources with the MISO PRA. There are resources located in Zone 7 that Staff anticipates will be in the PRA that were not included in any capacity demonstration as well as a small number of resources included in the capacity demonstration that are no longer available due to recent events.*

*(13) LCR Position after accounting for undemonstrated Zone 7 Capacity.*

*(14) PRMR position after accounting for undemonstrated Zone 7 capacity. A negative value means the Zone will need to import resource to meet its requirement. A positive value means the Zone may import resources based on economics but will not need to meet its PRMR.*

**Prompt Year (PY 2024/25) and Compliance Year (PY 2027/28)**

For the prompt year (PY 2024/25), based on the PRA Results posted April 24, 2024,[17] LRZ 7's summer PRMR is 21,565 ZRCs and the LCR is 19,271 ZRCs. The total LRZ 7 resources offered in the PRA for the summer season in the prompt year is 21,914 ZRCs, which exceeds the anticipated LCR by 2,643 ZRCs and the PRMR by 349 ZRCs. Other seasons data is shown in Appendix C.

Based on the resources included in the capacity demonstration filings for PY 2027/28 Staff projects LRZ 7 to have a surplus of resources compared to the projected LCR in all four seasons, as shown in Figure 4. It is important to note that these projections are subject to change. A few examples of things that could change include: load forecasts, resource availability and performance, and MISO policies and practices.

MISO has previously provided projections of both PRMR and LRR into the compliance year from the prompt year. These calculations were not available to Staff at the time of its report. In absence of projected PRMR/LRR values, Staff has assumed these values remain constant for the purposes of this comparison.

**Interim Years (PY 2025/26 & PY 2026/27)**

Appendix C also includes data and projections for each season in the interim years, PY 2025/26 & PY 2026/27. This information is derived using the same methodology as described for the compliance year. Comparing those projected requirements to the demonstrated and undemonstrated resources in LRZ 7, results in a capacity surplus for both years compared to the projected LCRs. This information is based on the best information currently available to Staff, but includes several assumptions and, again, is subject to change. Similar to the compliance year, likely changes include: new forecasts, unknown resource additions or subtractions, changes in generator performance, increased or decreased zonal import ability, seasonal variability, and/or changes to MISO requirements. It is also worth noting that the capacity margin looks to be tighter in PY 2025/26 and 2026/27 across all four seasons than the prompt year (2024/25) and the demonstration year (2027/28). This is primarily due to retirements of significant capacity from the zone following this year and retirements in general outpacing capacity additions. This is especially noteworthy for 2025/26 in the Summer and Fall seasons which could be short of the Zone's PRMR therefore needing to rely on imports which may or may not be available as capacity margin tightens in all of MISO.

## MISO – Local Resource Zone 2

MISO's LRZ 2 encompasses almost the entire upper peninsula of Michigan as well as northern and eastern Wisconsin. MISO LRZ 2 has seasonal CILs of 4,506 ZRCs in Summer,

[17] https://cdn.misoenergy.org/2024%20PRA%20Results%20Posting%2020240425632665.pdf

5,719 ZRCs in Fall, 5,523 ZRCs in Winter, and 5,034 ZRCs in Spring.[18] MISO does not define MW capacity imports or export limits between states within the boundaries of the same MISO LRZ. Considering LRZ 2 includes LSEs from Wisconsin (not subject to MCL 460.6w), the data available to Staff for LRZ 2 from capacity demonstration filings is not comprehensive enough to project a zonal capacity position as Staff did in its analysis of LRZ 7. Nevertheless, all Michigan LSEs serving load within MISO LRZ 2 demonstrated sufficient resources to meet their requirements.

The 2024 MISO PRA results indicate an installed capacity surplus in the 2024/25 planning year for LRZ 2.[19] The results of the OMS-MISO Survey indicate that LRZ 2 is projected to have an adequate supply of capacity resources to meet its PRMR requirements for the upcoming planning years as well.

## MISO – Local Resource Zone 1

A very small fraction of Michigan's upper peninsula load is located in LRZ 1. Northern States Power, Bayfield Electric Cooperative, and the City of Wakefield municipal utility have less than 35 MW combined in MISO LRZ 1. All LSEs in LRZ 1 demonstrated sufficient capacity to meet their obligations for PY 2027/28. The 2024/25 MISO PRA results show a capacity surplus for each season in the 2024/25 planning year.[20] Based on the most recent OMS Survey Results, which included projections for 2028/29, LRZ 1 is projected to have an adequate supply of capacity resources to meet its LCR for each season in 2027/28 but may need to rely on imports to meet its PRMR, especially in the summer.

[18] MISO LOLE Study Report, Planning Years 2024-2025.

[19] https://cdn.misoenergy.org/2024%20PRA%20Results%20Posting%2020240425632665.pdf

[20] https://cdn.misoenergy.org/2024%20PRA%20Results%20Posting%2020240425632665.pdf

## PJM Resource Adequacy

A few LSEs in Michigan serve load within the PJM RTO. These LSEs are still subject to the requirements of MCL 460.6w requiring sufficient capacity for four years forward in planning year 2027/28. PJM LSEs demonstrate sufficiency simply by providing evidence that the LSE complies with its PJM obligations.

LSEs in the PJM service territory must meet capacity obligations either through participation in PJM's Reliability Pricing Model (RPM) Base Residual Auction (BRA) or through PJM's Fixed Resource Requirement (FRR) plan. The FRR plan is an alternative to the RPM, where an LSE must demonstrate to PJM that it has enough resources to cover its projected load plus an additional reserve requirement. Both the RPM and the FRR resources are subject to monetary penalties if they fail to maintain PJM's reliability standard. PJM's resource adequacy construct is based on annual requirements.

The largest LSE in PJM is Indiana Michigan Power Company (I&M).[21] I&M elects to file an FRR plan each year. I&M's most recent capacity demonstration indicates that the company plans to continue with the PJM FRR plan barring any major FERC-ordered changes. Staff reviewed I&M's filing and finds that they have sufficient resources to meet its obligations at PJM.

In addition to I&M's capacity demonstration, Staff also reviewed information of cooperative and municipal utility obligations in the Michigan portion of PJM's territory for planning year 2027/28. The results are displayed in the table below.

**Figure 5: PJM Capacity Demonstration Summary**

| Item | PY 2024/25 | PY 2025/26 | PY 2026/27 | PY 2027/28 |
|---|---|---|---|---|
| Utility Total Planning Resources, MW | 4,478.6 | 4,254.5 | 3,818 | 4,243.9 |
| Other PJM Resources, MW | 163.8 | 241.3 | 254.8 | 379.8 |
| Total PJM Resources, MW | 4,642.4 | 4,495.8 | 4,072.8 | 4,623.7 |

Staff expects that the LSEs in the Michigan portion of PJM will continue to meet the PJM capacity obligations based on information included in individual capacity demonstrations. If PJM LSEs were to encounter an unanticipated shortfall in the immediate future, Staff expects that it would be accommodated through the procurement of reserve resources by market purchases. As market conditions may change over time, Staff will continue to monitor the resource adequacy of the PJM region and the capacity plans of Michigan LSEs located within the PJM territory. As reaffirmed in

[21] Indiana Michigan Power Company is an electric operating company of American Electric Power Company, Inc. (AEP). I&M is a wholly owned subsidiary of AEP and is operated as a single utility in the American Electric Power System (AEP System).

the Company's most recent IRP, filed in Case No U-21189,[22] Staff does not anticipate I&M to have any issues meeting capacity obligations.

The Commission order in Case No. U-16090 set I&M's customer choice cap amount to zero, and was subsequently reset to ten percent on February 1, 2019, pursuant to the Commission order and MCL 460.10a(1)(c). On February 1, 2019, I&M began enrolling customers in its choice program and is now fully subscribed at the cap. Currently I&M is responsible for the capacity of its choice load in its FRR plan under the PJM RAA. If suppliers were to choose to self-supply capacity, then that capacity would also need to be included in I&M's FRR plan.

The North American Electric Reliability Corporations 2023 Long-Term Reliability Assessment projects PJM to have enough electric supply resources to meet demand forecasts under normal and more extreme weather conditions for 2024-2028 and categorizes PJM in the least risky category.[23] Still, it is worth noting that PJM is experiencing similar changes to the rest of the country as the energy transition and resource retirements continue.[24]

The PJM Base Residual Auction (BRA) schedule has experienced delays awaiting FERC action on capacity auction related issues. The following timeline shows the published BRA schedule of auctions every six months until they can get back to the original schedule (every May, three years in advance of the delivery year):

- July 17, 2024 2025/26 BRA
- December 2024 2026/27 BRA
- June 2025 2027/28 BRA

In addition, there are changes to PJM's resource adequacy construct commencing in 2025/26,[25] including implementing the Effective Load Carry Capability (ELCC) methodology for all asset accreditation and a more robust risk model. These changes are expected to result in lower accreditation amounts for demand-side resources and lower load obligations for every entity.

## LSE Capacity Demonstration Results (PY 2027/2028)

Staff appreciates the time and effort made by all Michigan LSEs to comply with the provisions of MCL 460.6w, as well as to comply with the questions, audits, contract reviews, and requests for additional information throughout this process. The LSE capacity demonstration results are reported for planning year 2027/2028 because, following the initial capacity demonstration which covered four years, only the fourth year forward is required for compliance. As previously described in its September 15, 2017 order in Case No. U-18197, the Commission requested a table

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[22] MPSC Case No. U-21189, Direct Testimony of Stephan F. Baker, p. 7, February 28, 2022.

[23] NERC 2023 Long-Term Reliability Assessment

[24] energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx

[25] 20231013-5157 2023 CIFP-RA Transmittal.pdf

be included in this report that identifies the capacity by type for each individual electric provider without revealing the identity of any specific electric provider. The requested table with a breakdown for each electric provider that filed a capacity demonstration is included as Appendix A. In addition to the breakdown by individual supplier, Staff reports the following aggregate results in Figure 6 below.

**Figure 6: Resource Breakdown (%) by Supplier Type Planning Year 2027/28 - Summer**

| Supplier Type | Owned | DR | Contract – PPA | Contract - ZRC | Auction |
|---|---|---|---|---|---|
| Muni/Co-Op Aggregate | 58.6% | 0.1% | 36.8% | 1.7% | 2.7% |
| AES Aggregate | 0.2% | 0.2% | 4.8% | 93.2% | 1.6% |
| Utility Aggregate | 76.7% | 6.4% | 16.6% | 0.2% | 0.0% |

## AES Peak Load Contribution (MISO)

Each LSE's capacity obligation is the LSE's Planning Reserve Margin Requirement for the prompt year for the applicable season. For AES's the Planning Reserve Margin Requirement is the sum of its individual customers Peak Load Contribution (PLC). The methodology for determining a customer's PLC is described in the MISO tariff.[26] Each Electrical Distribution Company (EDC) is responsible for determining each LSE's PLC. In short, the PLC is determined by the following steps:

1. MISO provides the time (hour and date) of its system peak from the previous year to the EDC.
2. The EDC determines the service area's load at the time of the system peak during the previous year.
3. The EDC forecasts the service area's coincident peak load (coincident to the MISO system) for the upcoming planning year.
4. The EDC determines a forecasting adjustment by dividing the forecasted service area's coincident peak (Step 3 above) by the service area's actual load at the time of the MISO peak during the previous year (Step 2 above).
5. The EDC applies the forecasting adjustment, as well as an adjustment for the applicable transmission losses and planning reserve margin percentage, to the AES's customers actual load during the previous year at the time of the MISO system peak.

Prior to capacity demonstration filings this year, Staff met with Wolverine Power Supply Cooperative to discuss their customers' PLCs. Last summer the MISO system peaked on Hour Ending 17, June 21, 2023. During this time, most of the US was experiencing unusually hot

[26] MISO tariff 69A.1.2.1, accessed 4/26/2024.

weather, but temperatures in Michigan were relatively mild. Due to the mild temperatures in Michigan, DTE's service area load was much lower than it historically is during the MISO system peak. This resulted in a forecast adjustment ratio applicable to AES of approximately 1.45. In other words, DTE forecasts its service area load to be about 45% higher at the MISO system summer peak in 2024 than it was in 2023. For reference, last year's forecast adjustment was approximately 0.95 which adjusted PLCs down because the service area load was higher in 2022 at the time of the MISO peak then the forecasted load for 2023. The issue here is not that DTE's forecast is inaccurate or unreasonable but instead how that forecast is applied to AES customers, especially those that have relatively stable load regardless of temperature. The example customer in this case was using basically the same amount of energy during the MISO system peak this summer as compared to previous two summer peaks but is being assigned a PLC that is 45% higher and according to Wolverine, larger than the customer could possibly use.

Staff had multiple meetings with DTE, Wolverine, and MISO to better understand this issue and to explore potential solutions. It appears to Staff that DTE calculated the PLCs as directed in the MISO Tariff and that DTE's service area forecast is reasonable. However, Staff agrees with Wolverine that application of the tariff methodology for determining PLCs could result in unreasonable PLCs for certain customers. Since the capacity demonstration requirement is based on the prompt year PLC, inaccurate PLC's will impact both the prompt year MISO PRA as well as the 4-yr forward capacity demonstration requirement. For this year, Wolverine demonstrated enough capacity for PY 2027/28 to cover the higher PLCs and was assigned the higher PLC for the prompt year PRA.

## Demand Response

As part of its analysis, Staff reviewed the LSEs' demand response (DR) programs as an optional source of capacity. When used by a LSE, a reduction in demand through DR programs offsets a portion of their capacity needs. LSEs can utilize interruptible DR during critical peak times to quickly respond to bulk electric system needs which can delay future capital investment in new generation. Behavioral DR programs allow the utility to lower its peak demand forecast, thus mitigating the need for an equal of amount supply side resources.

Demand response played a prominent role in LSEs' integrated resource plan filings, where DR is required to be considered along with traditional supply side resources for meeting capacity needs. MCL 460.6t directs Staff to complete a statewide study of DR potential in Michigan every five years, and the most current state of Michigan Demand Response Potential Study was issued on September 24, 2021.[27] In addition, the Commission approved Michigan Integrated Resource Planning Parameters on November 21, 2017 in Case No. U-

[27] Michigan Demand Response Statewide Potential Study (2021-2040) Guidehouse, September 24, 2021.

18418 that include provisions regarding including DR options in future integrated resource plans and Staff is currently working to updated those Parameters.

The DR levels assumed in both Consumers Energy's and DTE Electric's current integrated resource plans[28] are reflected in their capacity demonstration filing. Staff will continue to monitor these plans and the use of DR in Michigan for the foreseeable future.

## Demand Response Aggregation

Pursuant to the September 15, 2017 Order in Case No. U-18369, the Commission affirmed that AESs may offer DR programs to their customers through a curtailment service provider (CSP) or third-party aggregator. The Commission made this determination in the context of finding that it will continue to review DR programs offered by AESs as part of the capacity demonstration process.

As the Relevant Electric Retail Regulatory Authority (RERRA), the Commission is aware of aggregation of approximately 115 ZRCs of DR to be offered into the 2024 MISO capacity market. Staff continues to work with CSPs, ARCs and MISO to ensure that aggregated DR's load modifications is accounted for when dispatched on MISO's coincident peak and continues to monitor the discussions taking place regarding FERC Order 2222.

## ZRC Contracts

Staff recommended that forward ZRC contracts be used for capacity demonstration purposes to specify delivery of the ZRCs in the MISO Module E Capacity Tracking (MECT) tool prior to the applicable PRA auction. This year's demonstration shows a decrease in the percentage of ZRC contracts utilized this year by the utilities, municipal utilities and cooperatives, and AESs compared to last year.

An important thing to note is that ZRCs are defined in MISO's tariff and are created in the prompt year when UCAP for supply-side and demand-side resources are converted into ZRCs in the MISO MECT. ZRCs for any year further out than the prompt year are projected and don't become ZRCs until the prompt year. ZRCs are fungible products that can be sold or transferred, and in some cases, sold more than once. The characteristics of ZRCs allow for them to be easily traded and tracked within the MISO MECT. MISO has a view into the source and transfers of those ZRCs that occur prior to the PRA in the prompt year, and those ZRC transfers are audited by Staff as a secondary check on the ZRC contracts utilized in the capacity demonstrations.

At this point in time, the overall amount of ZRC contracts included in capacity demonstration filings do not impact Staff's ability to continue to make forward resource adequacy

[28] DTE's current IRP filed and approved in MPSC Case No. U-21193.
CE's current IRP filed in MPSC Case No. U-21090.

projections on a zonal basis. Staff will continue to monitor and audit ZRC contracts and ZRC transfers within the MECT going forward.

### AES Load Switching

Staff requested that any AES who experienced load switching during this time provide a signed affidavit confirming the increase or reduction in their load compared to the PLC data provided by the utility with their capacity demonstration that contained the amount of load switching for each planning year. Each supplier contracting for additional customer load provided a copy of its affidavit confirming this transaction to the supplier that was losing the load to be accounted for in both suppliers' demonstrations. For this filing year, all the load switching had occurred prior to the filing date. The load switching process was made more complex with the change to a seasonal construct.

### Capacity Retirements and Additions

Staff has evaluated the available resources for the four years included in this year's docket and believes a discussion of capacity retirements and additions is warranted. Over 1,150 MW of coal capacity (84% of LRZ 7 retired capacity) is retiring from MISO LRZ 7 after PY 2024/25. The drop of total resources from PY 2024/25 to PY 2025/26 is evident in the capacity position charts in Appendix C.

A portion of the capacity from Palisades Nuclear Power Plant was included as demonstrated capacity starting in spring 2025/26. The remainder of the capacity from Palisades is being contracted by an LSE in Indiana. However, all the capacity from Palisades would provide resource adequacy benefits to MISO LRZ 7 and be counted towards meeting the LCR for LRZ 7. Re-opening of this plant is conditional on approval from the Nuclear Regulatory Commission (NRC).

Capacity additions for the compliance year (27/28) include 2,744 MW of solar in MISO LRZ 7, which is approximately 76% of new capacity additions. Various factors could cause delays for new utility solar, including broad economic factors such as supply chain constraints, labor shortages, high component prices, etc., as well as delays associated with obtaining permitting, regulatory approval, or interconnection queue delays. In general retirements are outpacing capacity additions across the country leading to tighter capacity margins. This issue may be further exacerbated should demand increase faster than expected due to unanticipated loads such as data centers as well as electrification of the building and transportation sectors.

## Conclusion and Recommendations

All Michigan LSEs required to file capacity demonstrations with the Michigan Public Service Commission for planning year 2027/28 pursuant to MCL 460.6w and the July 26, 2023 Commission Order in Case No. U-21393 have filed. Staff has audited the filings, contracts and other materials

and finds that all Michigan LSEs have satisfied the capacity demonstration requirements and have procured appropriate levels of resources for planning year 2027/28.

Staff appreciates the cooperation of all Michigan LSEs with respect to this process and the willingness to provide data and answer questions necessary for Staff to complete its review. Staff especially appreciates the LSEs' participation in the new MISO seasonal capacity construct and its integration into the Michigan demonstration process.

# Appendix A

## Planning Year 2027/28 Resource Breakdown (%) by Individual Supplier[29]

| LSE | Owned | DR | Contract - PPA | Contract - ZRC | Auction |
|---|---|---|---|---|---|
| Supplier 1 | 0% | 0% | 0% | 100% | 0% |
| Supplier 2 | 0% | 0% | 97% | 0% | 3% |
| Supplier 3 | 77% | 0% | 23% | 0% | 0% |
| Supplier 4 | 48% | 29% | 24% | 0% | 0% |
| Supplier 5 | 39% | 4% | 58% | 0% | 0% |
| Supplier 6 | 68% | 0% | 30% | 2% | 0% |
| Supplier 7 | 88% | 7% | 5% | 0% | 0% |
| Supplier 8 | 0% | 0% | 0% | 100% | 0% |
| Supplier 9 | 0% | 0% | 100% | 0% | 0% |
| Supplier 10 | 83% | 5% | 11% | 1% | 0% |
| Supplier 11 | 0% | 0% | 100% | 0% | 0% |
| Supplier 12 | 0% | 0% | 100% | 0% | 0% |
| Supplier 13 | 9% | 9% | 82% | 0% | 0% |
| Supplier 14 | 0% | 0% | 100% | 0% | 0% |
| Supplier 15 | 0% | 0% | 0% | 100% | 0% |
| Supplier 16 | 0% | 0% | 0% | 100% | 0% |
| Supplier 17 | 0% | 0% | 0% | 100% | 0% |
| Supplier 18 | 56% | 44% | 0% | 0% | 0% |
| Supplier 19 | 0% | 0% | 0% | 100% | 0% |
| Supplier 20 | 58% | 0% | 37% | 0% | 6% |
| Supplier 21 | 60% | 11% | 30% | 0% | 0% |
| Supplier 22 | 0% | 0% | 0% | 97% | 3% |
| Supplier 23 | 0% | 0% | 100% | 0% | 0% |
| Supplier 24 | 0% | 16% | 43% | 41% | 0% |
| Supplier 25 | 23% | 0% | 77% | 0% | 0% |

[29] Suppliers (municipal and cooperative electric utilities) that combined their capacity resources are shown as one supplier in the above figure. The total number of suppliers may vary from year to year based on changes to which suppliers combine their capacity demonstrations as well as new suppliers or suppliers no longer serving load in Michigan.

# Appendix B

## PY 23/24 Seasonal MISO LOLE Report Data LRZ 7

| Planning Year | Season | LRR | ZIA | LCR |
|---|---|---|---|---|
| 2023/24 | Summer | 24,428 | 5,087 | 19,341 |
| 2023/24 | Fall | 24,117 | 4,285 | 19,832 |
| 2023/24 | Winter | 21,940 | 4,350 | 17,590 |
| 2023/24 | Spring | 21,475 | 4,413 | 17,062 |

# Appendix C

| U-21393 Results - LRZ 7 Summer Capacity Position (ZRCs) | | | | | |
|---|---|---|---|---|---|
| Line # | Summer Values | PY 2024 | PY 2025 | PY 2026 | PY 2027 |
| 1 | Planning Reserve Margin Requirements (PRMR) | 21565 | 21565 | 21565 | 21565 |
| 2 | Local Reliability Requirement (LRR) | 23761 | 23761 | 23761 | 23761 |
| 3 | Zonal Import Ability (ZIA) | 4490 | 4490 | 4490 | 4490 |
| 4 | Local Clearing Requirement (LCR) | 19271 | 19271 | 19271 | 19271 |
| | | | | | |
| 5 | Total Owned | 16911 | 15957 | 16897 | 17880 |
| 6 | Total PPA Contracts | 2304 | 2704 | 3811 | 4329 |
| 7 | Total ZRC Contracts | 454 | 296 | 235 | 423 |
| 8 | Total Qualified Demand Response | 1585 | 1711 | 1760 | 1871 |
| 9 | Total Resources (Line 5 + Line 6 + Line 7 + Line 8) | 21254 | 20668 | 22703 | 24502 |
| | | | | | |
| 10 | LCR Demonstrated Position (Line 9 - Line 4) | 1983 | 1397 | 3432 | 5231 |
| 11 | PRMR Demonstrated Capacity Position (Line 9 - Line 1) | -311 | -897 | 1138 | 2937 |
| | | | | | |
| 12 | Net Undemonstrated Zone 7 Capacity | 409 | 563 | 624 | 436 |
| | | | | | |
| 13 | Anticipated LCR Position (Line 10 + Line 12) | 2392 | 1960 | 4056 | 5667 |
| 14 | Anticipated PRMR Capacity Position (Line 11 + Line 12) | 98 | (334) | 1762 | 3373 |
| | | | | | |
| *(1) PY 2024 PRMR from PRA Data and held constant at prompt year value.* | | | | | |
| *(3) PY 2024 ZIA from PRA Data and held constant at prompt year value.* | | | | | |
| *(4) PY 2024 LCR from PRA Data and held constant at prompt year value.* | | | | | |
| *(5-9) Zone 7 resources included in capacity demonstrations sorted by resource type.* | | | | | |
| *(10) LCR position based on demonstrated resources only.* | | | | | |
| *(11) PRMR position based on demonstrated resources only.* | | | | | |
| *(12) Net Undemonstrated Zone 7 Capacity is Staff's attempt to reconcile the capacity demonstration resources with the MISO PRA. There are resources located in Zone 7 that Staff anticipates will be in the PRA that were not included in any capacity demonstration as well as a small number of resources included in the capacity demonstration that are no longer available due to recent events.* | | | | | |
| *(13) LCR Position after accounting for undemonstrated Zone 7 Capacity.* | | | | | |
| *(14) PRMR position after accounting for undemonstrated Zone 7 capacity. A negative value means the Zone will need to import resource to meet its requirement. A positive value means the Zone may import resources based on economics but will not need to meet its PRMR.* | | | | | |

| U-21393 Results - LRZ 7 Autumn Capacity Position (ZRCs) | | | | | |
|---|---|---|---|---|---|
| Line # | | PY 2024 | PY 2025 | PY 2026 | PY 2027 |
| 1 | Planning Reserve Margin Requirements (PRMR) | 19893 | 19893 | 19893 | 19893 |
| 2 | Local Reliability Requirement (LRR) | 23833 | 23833 | 23833 | 23833 |
| 3 | Zonal Import Ability (ZIA) | 4390 | 4390 | 4390 | 4390 |
| 4 | Local Clearing Requirement (LCR) | 19443 | 19443 | 19443 | 19443 |
| | | | | | |
| 5 | Total Owned | 16867 | 15780 | 16770 | 17703 |
| 6 | Total PPA Contracts | 2273 | 2651 | 3786 | 4218 |
| 7 | Total ZRC Contracts | 438 | 283 | 212 | 399 |
| 8 | Total Qualified Demand Response | 619 | 623 | 629 | 635 |
| 9 | Total Resources (Line 5 + Line 6 + Line 7 + Line 8) | 20197 | 19337 | 21396 | 22954 |
| | | | | | |
| 10 | LCR Demonstrated Position (Line 9 - Line 4) | 754 | -106 | 1953 | 3511 |
| 11 | PRMR Demonstrated Capacity Position (Line 9 - Line 1) | 304 | -556 | 1503 | 3061 |
| | | | | | |
| 12 | Net Undemonstrated Zone 7 Capacity | 439 | 588 | 670 | 485 |
| | | | | | |
| 13 | Anticipated LCR Position (Line 10 + Line 12) | 1193 | 483 | 2623 | 3997 |
| 14 | Anticipated PRMR Capacity Position (Line 11 + Line 12) | 743 | 33 | 2173 | 3547 |
| | | | | | |

*(1) PY 2024 PRMR from PRA Data and held constant at prompt year value.*

*(3) PY 2024 ZIA from PRA Data and held constant at prompt year value.*

*(4) PY 2024 LCR from PRA Data and held constant at prompt year value.*

*(5-9) Zone 7 resources included in capacity demonstrations sorted by resource type.*

*(10) LCR position based on demonstrated resources only.*

*(11) PRMR position based on demonstrated resources only.*

*(12) Net Undemonstrated Zone 7 Capacity is Staff's attempt to reconcile the capacity demonstration resources with the MISO PRA. There are resources located in Zone 7 that Staff anticipates will be in the PRA that were not included in any capacity demonstration as well as a small number of resources included in the capacity demonstration that are no longer available due to recent events.*

*(13) LCR Position after accounting for undemonstrated Zone 7 Capacity.*

*(14) PRMR position after accounting for undemonstrated Zone 7 capacity. A negative value means the Zone will need to import resource to meet its requirement. A positive value means the Zone may import resources based on economics but will not need to meet its PRMR.*

| U-21393 Results - LRZ 7 Winter Capacity Position (ZRCs) | | | | | |
|---|---|---|---|---|---|
| Line # | | PY 2024 | PY 2025 | PY 2026 | PY 2027 |
| 1 | Planning Reserve Margin Requirements (PRMR) | 17366 | 17366 | 17366 | 17366 |
| 2 | Local Reliability Requirement (LRR) | 22253 | 22253 | 22253 | 22253 |
| 3 | Zonal Import Ability (ZIA) | 4656 | 4656 | 4656 | 4656 |
| 4 | Local Clearing Requirement (LCR) | 17597 | 17597 | 17597 | 17597 |
| | | | | | |
| 5 | Total Owned | 18240 | 17051 | 17345 | 17490 |
| 6 | Total PPA Contracts | 2247 | 2433 | 3415 | 3404 |
| 7 | Total ZRC Contracts | 425 | 260 | 167 | 332 |
| 8 | Total Qualified Demand Response | 760 | 761 | 767 | 774 |
| 9 | Total Resources (Line 5 + Line 6 + Line 7 + Line 8) | 21672 | 20505 | 21694 | 22000 |
| | | | | | |
| 10 | LCR Demonstrated Position (Line 9 - Line 4) | 4075 | 2908 | 4097 | 4403 |
| 11 | PRMR Demonstrated Capacity Position (Line 9 - Line 1) | 4306 | 3139 | 4328 | 4634 |
| | | | | | |
| 12 | Net Undemonstrated Zone 7 Capacity | 457 | 630 | 755 | 587 |
| | | | | | |
| 13 | Anticipated LCR Position (Line 10 + Line 12) | 4532 | 3538 | 4852 | 4990 |
| 14 | Anticipated PRMR Capacity Position (Line 11 + Line 12) | 4763 | 3769 | 5083 | 5221 |
| | | | | | |
| *(1) PY 2024 PRMR from PRA Data and held constant at prompt year value.* | | | | | |
| *(3) PY 2024 ZIA from PRA Data and held constant at prompt year value.* | | | | | |
| *(4) PY 2024 LCR from PRA Data and held constant at prompt year value.* | | | | | |
| *(5-9) Zone 7 resources included in capacity demonstrations sorted by resource type.* | | | | | |
| *(10) LCR position based on demonstrated resources only.* | | | | | |
| *(11) PRMR position based on demonstrated resources only.* | | | | | |
| *(12) Net Undemonstrated Zone 7 Capacity is Staff's attempt to reconcile the capacity demonstration resources with the MISO PRA. There are resources located in Zone 7 that Staff anticipates will be in the PRA that were not included in any capacity demonstration as well as a small number of resources included in the capacity demonstration that are no longer available due to recent events.* | | | | | |
| *(13) LCR Position after accounting for undemonstrated Zone 7 Capacity.* | | | | | |
| *(14) PRMR position after accounting for undemonstrated Zone 7 capacity. A negative value means the Zone will need to import resource to meet its requirement. A positive value means the Zone may import resources based on economics but will not need to meet its PRMR.* | | | | | |

| U-21393 Results - LRZ 7 Spring Capacity Position (ZRCs) | | | | | |
|---|---|---|---|---|---|
| Line # | | PY 2024 | PY 2025 | PY 2026 | PY 2027 |
| 1 | Planning Reserve Margin Requirements (PRMR) | 19670 | 19670 | 19670 | 19670 |
| 2 | Local Reliability Requirement (LRR) | 21255 | 21255 | 21255 | 21255 |
| 3 | Zonal Import Ability (ZIA) | 4883 | 4883 | 4883 | 4883 |
| 4 | Local Clearing Requirement (LCR) | 16372 | 16372 | 16372 | 16372 |
| | | | | | |
| 5 | Total Owned | 16707 | 15962 | 17302 | 17869 |
| 6 | Total PPA Contracts | 2391 | 3282 | 4059 | 4758 |
| 7 | Total ZRC Contracts | 433 | 284 | 215 | 396 |
| 8 | Total Qualified Demand Response | 754 | 754 | 761 | 767 |
| 9 | Total Resources (Line 5 + Line 6 + Line 7 + Line 8) | 20285 | 20282 | 22336 | 23790 |
| | | | | | |
| 10 | LCR Demonstrated Position (Line 9 - Line 4) | 3913 | 3910 | 5964 | 7418 |
| 11 | PRMR Demonstrated Capacity Position (Line 9 - Line 1) | 615 | 612 | 2666 | 4120 |
| | | | | | |
| 12 | Net Undemonstrated Zone 7 Capacity | 442 | 580 | 658 | 478 |
| | | | | | |
| 13 | Anticipated LCR Position (Line 10 + Line 12) | 4365 | 4500 | 6632 | 7906 |
| 14 | Anticipated PRMR Capacity Position (Line 11 + Line 12) | 1057 | 1192 | 3324 | 4598 |
| | | | | | |
| *(1) PY 2024 PRMR from PRA Data and held constant at prompt year value.* | | | | | |
| *(3) PY 2024 ZIA from PRA Data and held constant at prompt year value.* | | | | | |
| *(4) PY 2024 LCR from PRA Data and held constant at prompt year value.* | | | | | |
| *(5-9) Zone 7 resources included in capacity demonstrations sorted by resource type.* | | | | | |
| *(10) LCR position based on demonstrated resources only.* | | | | | |
| *(11) PRMR position based on demonstrated resources only.* | | | | | |
| *(12) Net Undemonstrated Zone 7 Capacity is Staff's attempt to reconcile the capacity demonstration resources with the MISO PRA. There are resources located in Zone 7 that Staff anticipates will be in the PRA that were not included in any capacity demonstration as well as a small number of resources included in the capacity demonstration that are no longer available due to recent events.* | | | | | |
| *(13) LCR Position after accounting for undemonstrated Zone 7 Capacity.* | | | | | |
| *(14) PRMR position after accounting for undemonstrated Zone 7 capacity. A negative value means the Zone will need to import resource to meet its requirement. A positive value means the Zone may import resources based on economics but will not need to meet its PRMR.* | | | | | |