

NEM Lack of Reserve Framework Report 1 October to 31 December 2021

January 2022

A report for the National Electricity
Market on the operation of the
Lack of Reserve Framework





Important notice

Purpose

AEMO has prepared this document under clause 4.8.4B of the National Electricity Rules to report on the operation of the NEM Lack of Reserve Framework for the period from 1 October to 31 December 2021.

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Version control

| Version | Release date | Changes |
|---------|--------------|-----------------|
| 1 | 27/01/2022 | Initial release |

Executive summary

This report has been published in accordance with clause 4.8.4B of the National Electricity Rules (NER).

In the reporting period 1 October to 31 December 2021 (Quarter 4 2021), AEMO declared 55 Lack of Reserve (LOR) conditions in the National Electricity Market (NEM)¹:

- There were 29 forecast LOR1 conditions.
- There were 18 forecast LOR2 conditions.
- There were 7 actual LOR1 conditions.
- There were 1 actual LOR2 condition.

This compares with 69 LOR conditions declared in the previous reporting period (Quarter 3 2021), and 39 LOR conditions declared for the same period last year (Quarter 4 2020)².

Quarter 4 2021 covered the later spring months and first month of summer. Conditions warmed through this period peaking in December.

The LOR declarations in this quarter are mainly due to decreased generation availability, short notice outages and unplanned power system events.

- None of the actual LOR conditions were unanticipated.
- Many of the forecast LOR conditions did not eventuate into actual LOR conditions, mainly because the market response in the form of increased generation availability and revised forecast demand meant the actual demand was not as high as the forecast demand.
- The LOR conditions in New South Wales and Queensland were driven by reduced net import, high demand forecast and decreased generation availability.
- The LOR conditions in South Australia were mainly due to decreased generation availability and reduced net import.
- The LOR conditions in Tasmania were due to reduced net import (Basslink unavailable), network outages (multiple generating units on single contingency) and decreased generation availability.
- The only LOR declaration in Victoria was due to an error in constraint formulation which was corrected shortly after it was declared.

Of the 55 LOR declarations in Quarter 4 2021:

- For 36 declarations, the reserve requirement was set by the sum of the two largest credible risks (LCR2, for LOR1 thresholds). There were 10 declarations where the reserve requirement was set by the largest credible

¹ Forecast or actual LOR1, LOR2, or LOR3. LOR is described in clause 4.8.4 of the National Electricity Rules (NER). AEMO's considerations and methodology, and the LOR levels, are outlined in AEMO's Reserve Level Declaration Guidelines, at <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Power-system-operation>.

² In Quarter 3 2021, the declared LOR conditions were 28 forecast LOR1 conditions, 21 forecast LOR2 conditions, 16 actual LOR1 conditions and four actual LOR2 conditions; in Quarter 4 2020 the declared LOR conditions were 15 forecast LOR1 conditions, 10 forecast LOR2 conditions, 13 actual LOR1 conditions and one actual LOR2 condition. Previous quarterly reports are on AEMO's website at <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/system-operations/power-system-operation/nem-lack-of-reserve-framework-quarterly-reports>.

risk (LCR, for LOR2 thresholds). There were nine declarations where the reserve requirement was set by the Forecast Uncertainty Measure (FUM).

- This means 16% of LOR conditions were declared when the reserve requirement was being set by the FUM. For comparison, in Quarter 3 2021, 14 of the 69 LOR declarations were set by the FUM (20%), and in Quarter 4 2020, seven of the 39 LOR declarations was set by the FUM (18%).

The next report on the NEM Lack of Reserve Framework, for the reporting period 1 January to 31 March 2022, will be published by 30 April 2022.

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1 Introduction

This report has been published in accordance with clause 4.8.4B of the National Electricity Rules (NER), to provide a high-level analysis of how the Lack of Reserve (LOR) framework is operating. This report covers the period from 1 October to 31 December 2021 (Quarter 4 2021).

Unless otherwise noted, all times in this report are National Electricity Market (NEM) time (Australian Eastern Standard Time [AEST]).

The report is divided into three sections:

- **Reserve Level Declaration Guidelines** – a summary of changes to the Guidelines over the past quarter, and the retraining of the Bayesian Belief Network (BBN).
- **LOR conditions declared** – details of all LOR conditions declared or revised during the past quarter (based on market notices). For each condition declared, the report indicates the required reserve level and whether the requirement was set by the Forecast Uncertainty Measure (FUM), or the largest credible risk/s (LCR) in the region. The reserve requirement can be set by the largest credible risk (LCR, for LOR2 conditions) or the sum of the two largest credible risks (LCR2, for LOR1 thresholds). The FUM value for each relevant period is also provided.
- **Review of performance** – a review of the performance of the LOR framework and any observed trends, providing an assessment of FUM values compared to previous quarters, determinants of reserve level requirements, number of LOR declarations, and leading factors or causes of LOR declarations.

Please direct all LOR inquiries to www.aemo.com.au/Contact-us. In the inquiry form field ‘*What is your enquiry regarding?*’, write “**LOR Framework Report**”.

The next report on the NEM Lack of Reserve Framework, for the reporting period from 1 January to 31 March 2022 (Quarter 1 2022), will be published by 30 April 2022.

2 Reserve level declaration guidelines

2.1 Changes in the reporting period

During the reporting period, there were no changes to the Guidelines³.

2.2 Retraining of the Bayesian Belief Network

The BBN is the algorithm which determines the FUM, which in turn can determine LOR levels. This process is summarised in the Guidelines. The intention of retraining the BBN is to update the network to include recent historical data since the last retraining. AEMO commenced the retraining in January 2022 to include data up to 31 December 2021. The retraining involves a three-stage process:

1. Extract-Transform-Load (ETL) stage, to extract historical data up to 31 December 2021, perform data validation and cleansing, and compile the data into the structured format required to incorporate into the network.
2. Analysis and modelling stage, to update the network and compile the network nodes.
3. Test and verification stage, to ensure the retrained network is suitable for production implementation.

AEMO is in the final stage of retraining, and plans to implement the retrained BBN into production around the end of January 2022, pending final verification and readiness checks in the pre-production environment.

2.2.1 Results from retraining

To verify the retraining, AEMO completed a backcast of all forecast intervals from October 2020 to September 2021, inclusive, using the existing BBN and the retrained BBN. The intention of the backcast is to provide an indication of the magnitude of changes to future maximum, minimum, and mean FUM values.

Changes in maximum and minimum FUM values between the existing and retrained BBN backcasts are common, as these are sensitive to unique events and limited sample sizes during the retraining quarter. These changes are listed below. Large differences in mean FUM values indicate a sustained change in uncertainty for a particular forecast horizon. Where material changes in the mean FUM have been identified, these have been investigated and investigation results summarised below. Minor changes were identified for some other forecast horizons and distribution statistics but are not listed here.

- New South Wales – maximum FUM values increased by 62 megawatts (MW) for the two hours ahead forecast horizon and decreased by 60 MW and 137 MW for the 12 and 60 hours ahead forecast horizon respectively. Mean FUM values were relatively unchanged. Minimum FUM values increased by 32 MW for the 12 hours ahead forecast horizon and decreased by 58 MW and 39 MW for the two and 60 hours ahead forecast horizons respectively.
- Queensland – maximum FUM values decreased by 54 MW for the 60 hours ahead forecast horizon. Mean and minimum FUM values were relatively unchanged.

³ The Guidelines are at <http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Power-system-operation>.

- South Australia – maximum FUM values decreased by 57 MW, 33 MW and 203 MW for the six, 12 and 60 hours ahead forecast horizons respectively. Mean and minimum FUM values were relatively unchanged.
- Tasmania – maximum FUM values decreased by 48 MW, 33 MW, 18 MW and 104 MW for the two, six, 12 and 24 hours ahead forecast horizons respectively. Mean FUM values decreased by 14 MW and 9 MW for the two and 6 hours ahead forecast horizons respectively. Minimum FUM values decreased by 7 MW for both the two and 12 hours ahead horizons.
 - A change to the Tasmania BBN retraining process was made when including data up to 31 December 2021. Up to the Q3 2021 retraining, the unconstrained intermittent generation forecast (UIGF) error component of Regional Excess Supply (RXS) error was based on a comparison of the forecast to actuals derived from 30-minute averaged SCADA readings.
 - For the Q4 2021 retraining, the actuals used for UIGF errors was changed to the most recent forecast created before the interval (30-minute ahead forecast). This change was made to ensure the calculation of the UIGF error component is consistent with the calculation of the available capacity of scheduled generating units error component also used in the Tasmania RXS calculation. This change resulted in the noted differences in mean FUM.
- Victoria – maximum FUM values increased by 169 MW, 44 MW and 67 MW for the 12, 24 and 60 hours ahead forecast horizons respectively. Minimum FUM values increased by 47 MW for the 60 hours ahead horizon. Mean FUM values were relatively unchanged.

3 Lack of Reserve conditions declared

Table 1 provides a high-level summary of the counts of forecast and actual LOR conditions based on the declaration count principles.

Table 2 lists all market notice declarations of forecast and actual LOR conditions over the reporting period from 1 October to 31 December 2021. Table 2 also identifies the market notices that communicated updates to, and cancellation of, either forecast or actual LOR conditions.

Declaration count principles

For the reporting period, AEMO determined the total count for LOR conditions based on the following principles:

- All market notices making the initial declaration of a forecast or actual LOR condition with an effective date during the reporting period were counted.
- Any market notices which updated previously issued forecast or actual LORs for a given effective date (in relation to the reserve requirement, reserve capacity available, or effective period) were not counted, to prevent double-counting of a continuing condition.
- In cases where forecast LORs were cancelled but subsequently re-issued with approximately the same effective period, re-issues were not counted, to prevent double-counting of effective periods.
- Updates to existing LOR conditions where the LOR level changed were counted as separate LOR conditions.
- Any forecast LORs which were subsequently declared as actual LORs at the same LOR level were counted once. In Table 2, these are shown as actual conditions only. For example:
 - Where a forecast LOR1 was issued and later an actual LOR1 was declared for a similar period, only the actual LOR1 was counted.
 - If the initial forecast was for a forecast LOR2 condition and this was later declared as an actual LOR1, this would be counted as two LOR conditions, due to the differing LOR levels.

Table 1 Summary of forecast and actual LOR conditions, with causing factors

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|--|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| 11/11/2021 | NSW | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 16:30 - 18:00 (8 hour lead time⁴) due to an increase in forecast demand and decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability and increased net import.</p> |
| 21/12/2021 | NSW | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 15:30 - 16:00 (19 hour lead time) due to an increase in forecast demand and reduced net import.</p> <p>An update to the forecast LOR1 condition was issued with an effective period of 15:30 - 16:00 (7 hour lead time). The forecast LOR1 condition worsened due to reduced net import.</p> <p>Another forecast LOR1 condition was declared with an effective period of 17:00 - 18:00 (20 hour lead time) due to an increase in forecast demand and reduced net import.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 16:30 - 18:00 (8 hour lead time). The forecast LOR1 condition worsened due to reduced net import.</p> <p>Another update to the forecast LOR1 condition was issued with an effective period of 17:00 - 18:00 (5 hour lead time). The forecast LOR1 condition improved due to a decrease in forecast demand and increased net import.</p> <p>The forecast LOR1 condition was cancelled due to a decrease in forecast demand and increased net import.</p> |
| 11/10/2021 | QLD | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 17:30 - 19:00 (5 hour lead time) due to decreased generation availability and reduced net import.</p> <p>The forecast LOR1 condition was cancelled due to a decrease in forecast demand and increased generation availability.</p> <p>A forecast LOR1 condition was later redeclared with an effective period of 18:30 - 19:00 (11 minute lead time) due to an increase in forecast demand and reduced net import.</p> <p>The forecast LOR1 condition was cancelled due to a decrease in forecast demand and increased net import.</p> |
| 14/10/2021 | QLD | 1 | | | | | | <p>A forecast LOR1 condition was declared with an effective period of 18:30 - 19:00 (5 day lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to a decrease in forecast demand and increased net import.</p> |

⁴ Lead time: The amount of warning time, from when a forecast LOR condition was first declared (Market Notice issued) to the start time of the LOR effective period.

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|---|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| | | | | | | | | <p>A forecast LOR1 condition was re-declared with an effective period of 17:30 - 20:00 (7 hour lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to a decrease in forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with an effective period of 17:30 - 19:00 and 19:30 - 20:00 (2 hour lead time). The forecast LOR1 condition improved due to increased generation availability, increased net import and a decrease in forecast demand.</p> <p>An actual LOR1 was later declared due to decreased generation availability. Actual conditions existed from 17:30 - 19:00.</p> |
| 24/10/2021 | QLD | | 1 | | 1 | | | <p>A forecast LOR1 condition was declared with an effective period of 17:30 - 19:00 (3 day lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:30 - 19:30 (51 hour lead time). The forecast LOR1 condition worsened due to decreased generation availability.</p> <p>Another update to the forecast LOR1 condition was later issued with an effective period of 17:30 - 19:00 (29 hour lead time). The forecast LOR1 condition improved due to increased generation availability and increased net import.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR1 condition was later redeclared with an effective period of 18:00 - 18:30 (24 hour lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to a decrease in forecast demand and increased net import.</p> <p>A forecast LOR2 condition was later declared with an effective period of 18:00 - 19:00 (3 day lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>The forecast LOR2 condition was cancelled due to a decrease in forecast demand and increased generation availability.</p> |
| 25/10/2021 | QLD | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 18:30 - 19:00 (5 day lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR1 condition was later redeclared with an effective period of 18:00 - 19:00 (3 day lead time) due to decreased generation availability.</p> <p>The LOR1 condition should have been cancelled.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|---|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| 26/10/2021 | QLD | 1 | | | | | | <p>A forecast LOR1 condition was declared with an effective period of 18:00 - 19:00 (6 hour lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR1 condition was later redeclared with an effective period of 18:00 - 19:00 (3 hour lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>An actual LOR1 was declared due to decreased generation availability. Actual conditions existed from 18:00 - 19:00.</p> |
| 28/10/2021 | QLD | 1 | | 1 | | | | <p>A forecast LOR1 condition was declared with an effective period of 17:30 - 19:00 (11 minute lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>An actual LOR1 was declared due to decreased generation availability. Actual conditions existed from 17:30 - 18:30.</p> <p>A forecast LOR2 condition was declared with an effective period of 18:30 - 19:00 (1 hr lead time) due to decreased generation availability and reduced net import.</p> <p>An actual LOR2 was declared due to decreased generation availability and reduced net import. Actual conditions existed from 18:00 - 19:00.</p> |
| 30/10/2021 | QLD | 1 | | | | | | <p>A forecast LOR1 condition was declared with an effective period of 18:00 - 19:00 (3 hour lead time) due to an increase in forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:30 - 19:30 (1 hour lead time). The forecast LOR1 condition worsened due to an increase in forecast demand.</p> <p>An actual LOR1 was declared due to decreased generation availability and an increase in demand. Actual conditions existed from 17:30 - 19:30.</p> |
| 08/11/2021 | QLD | 1 | | | 1 | | | <p>A forecast LOR1 condition was declared with an effective period of 18:30 - 19:00 (7 day lead time) due to decreased generation availability.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:30 - 19:00 (6 day lead time). The forecast LOR1 condition worsened due to an increase in forecast demand and decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR1 condition was later redeclared with an effective period of 18:30 - 19:00 (30 hour lead time) due to reduced net import and decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR1 condition was redeclared with an effective period of 18:30 - 19:00 (28 hour lead time) due to reduced net import.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|--|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| | | | | | | | | <p>A forecast LOR1 condition was later redeclared with an effective period of 18:30 - 19:00 (22 hour lead time) due to an increase in forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 18:00 - 19:00 (11 hour lead time). The forecast LOR1 condition worsened due to an increase in forecast demand and decreased generation availability.</p> <p>Another update to the forecast LOR1 condition was issued with an extended effective period of 17:30 - 19:30 (4 hour lead time). The forecast LOR1 condition worsened due to decreased generation availability.</p> <p>An update to the forecast LOR1 condition was later issued with an extended effective period of 17:00 - 20:00 (9 minute lead time). The effective period extended but the forecast reserve level improved due to a decrease in forecast demand and increased net import.</p> <p>An actual LOR1 was declared due to decreased generation availability. Actual conditions existed from 18:00 - 20:00.</p> <p>A forecast LOR2 condition was later declared with an effective period of 18:30 - 19:00 (4 hour lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>An update to the forecast LOR2 condition was issued with an extended effective period of 18:00 - 19:00 (3 hour lead time). The forecast LOR2 condition worsened due to decreased generation availability.</p> <p>The forecast LOR2 condition was cancelled due to increased net import and increased generation availability.</p> |
| 09/11/2021 | QLD | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 17:30 - 19:30 (7 day lead time) due to decreased generation availability.</p> <p>An update to the forecast LOR1 condition was issued with an effective period of 18:30 - 19:00 (6 day lead time). The forecast LOR1 condition improved due to increased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> |
| 11/11/2021 | QLD | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 18:30 - 19:00 (4 day lead time) due to reduced net import and an increase in forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:30 - 19:30 (3 day lead time). The forecast LOR1 condition worsened due to an increase in forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:00 - 20:00 (2 day lead time). The forecast LOR1 condition worsened due to a decrease in generation availability.</p> <p>The forecast LOR1 condition was cancelled due to an increase in generation availability and decrease in forecast demand.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|--|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| | | | | | | | | <p>A forecast LOR1 condition was redeclared with an effective period of 18:30 - 19:00 (8 hour lead time) due to decreased generation availability and reduced net import.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:30 - 19:00, 20:00 - 20:30 (5 hour lead time). The forecast LOR1 condition worsened due to a decrease in generation availability.</p> <p>The forecast LOR1 condition was cancelled due to decrease in forecast demand and increase in generation availability.</p> |
| 12/11/2021 | QLD | | 1 | | 1 | | | <p>A forecast LOR1 condition was declared with an effective period of 16:00 - 20:00 (4 day lead time) due to an increase in forecast demand and decreased generation availability.</p> <p>A forecast LOR2 condition was declared with an effective period of 16:30 - 17:00 (3 day lead time) due to reduced net import and an increase in the FUM.</p> <p>An update to the forecast LOR2 condition was issued with an extended effective period of 16:30 - 19:00 (3 day lead time). The forecast LOR2 condition was extended due to an increase in FUM.</p> <p>An update to the forecast LOR2 condition was issued with an extended effective period of 16:30 - 20:00 (3 day lead time). The forecast LOR2 condition was extended due to an increase in FUM.</p> <p>The forecast LOR2 condition was cancelled due to decrease in forecast demand, decrease in FUM and an increase in generation availability.</p> <p>An update to the forecast LOR1 condition was issued with a shortened effective period of 16:30 - 19:30 (2 day lead time). The forecast LOR1 condition improved due to decreased forecast demand.</p> <p>The forecast LOR1 condition was cancelled due to decrease in forecast demand and increase in generation availability.</p> |
| 22/11/2021 | QLD | | 1 | | 1 | | | <p>A forecast LOR1 condition was declared with an effective period of 17:30 - 19:30 (7 day lead time) due to high forecast demand.</p> <p>A forecast LOR2 condition was declared with an effective period of 17:30 - 19:30 (7 day lead time) due to further increase in forecast demand and decrease in generation availability.</p> <p>An update to the forecast LOR2 condition was issued with a shortened effective period of 18:00 - 19:00 (6 day lead time). The forecast LOR2 condition improved due to increased generation availability and decreased forecast demand.</p> <p>The forecast LOR2 condition was cancelled due to increase in generation availability.</p> <p>An update to the forecast LOR1 condition was issued with effective period of 16:30 - 20:00 (5 day lead time). The forecast LOR1 condition worsened due to an increase in forecast demand.</p> <p>The forecast LOR1 condition was cancelled due to decreased forecast demand.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|--|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| 23/11/2021 | QLD | | 1 | | 1 | | | <p>A forecast LOR2 condition was declared with an effective period of 17:30 - 19:30 (7 day lead time) due to high forecast demand. Consecutive hot days, 22nd 23rd, very high demand forecast.</p> <p>Forecast LOR1 conditions were declared with effective periods of 16:30 - 17:30, 19:30 - 20:30 (7 day lead time) due to high forecast demand.</p> <p>The forecast LOR2 condition was cancelled due to decreased forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with effective period of 17:00 - 19:30 (5 day lead time). The forecast LOR1 condition improved due to decreased forecast demand.</p> <p>The forecast LOR1 condition was cancelled due to decreased forecast demand.</p> |
| 09/12/2021 | QLD | 1 | | | 1 | | | <p>A forecast LOR1 condition was declared with an effective period of 19:30 - 20:00 (3 day lead time) due to increase in forecast demand.</p> <p>The forecast LOR1 condition was cancelled due to a decrease in forecast demand.</p> <p>A forecast LOR1 condition was redeclared with an effective period of 18:30 - 19:30 (1 day lead time) due to decreased generation availability and increase in forecast demand.</p> <p>The forecast LOR1 condition was cancelled due to an increase in generation availability and decrease in forecast demand.</p> <p>A forecast LOR1 condition was redeclared with an effective period of 18:30 - 19:00 (4 hour lead time) due to increase in forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:00 - 20:00. The forecast LOR1 condition worsened due to increase in forecast demand and decreased generation availability.</p> <p>An actual LOR1 was later declared due to decreased generation availability and increase in demand.</p> <p>A forecast LOR2 condition was declared with an effective period of 18:30 - 19:30 (1 hour lead time) due to increase in forecast demand and decreased generation availability.</p> <p>The forecast LOR2 condition was cancelled due to an increase in generation availability and decrease in forecast demand.</p> <p>Actual LOR1 conditions existed from 17:00 - 20:00.</p> |
| 11/12/2021 | QLD | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 18:30 - 20:00 (3 day lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to decrease in forecast demand.</p> |
| 12/12/2021 | QLD | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 19:30 - 20:00 (3 day lead time) due to decreased generation availability.</p> <p>LOR1 condition should have been cancelled.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|---|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| 15/12/2021 | QLD | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 18:00 - 20:00 (7 day lead time) due to decreased generation availability and high forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with an effective period of 18:30 - 19:00, 19:30 - 20:00 (6 day lead time). No significant change to previous LOR condition. LOR condition is due to decreased generation availability and high forecast demand.</p> <p>The forecast LOR1 condition was cancelled due to decrease in forecast demand and an increase in generation availability.</p> |
| 16/12/2021 | QLD | | 1 | | 1 | | | <p>A forecast LOR1 condition was declared with an effective period of 16:30 - 17:00, 17:30 - 20:00 (7 day lead time) due to decreased generation availability and high forecast demand.</p> <p>Forecast LOR2 conditions were declared with effective periods of 18:30 - 19:00, 19:30 - 20:00 (7 day lead time). LOR condition worsened due to increased forecast demand and decreased generation availability.</p> <p>The forecast LOR2 condition was cancelled due to an increase in generation availability and decrease in forecast demand.</p> |
| 20/12/2021 | QLD | 1 | | | 1 | | | <p>A forecast LOR2 condition was declared with an effective period of 19:30 - 20:00 (5 day lead time) due to increase in forecast demand and decreased generation availability.</p> <p>The forecast LOR2 condition was cancelled due to an increase in generation availability.</p> <p>A forecast LOR2 condition was later redeclared with an effective period of 19:30 - 20:00 (5 day lead time) due to further increase in forecast demand.</p> <p>A forecast LOR1 condition was declared with an effective period of 17:30 - 19:30 (5 day lead time) due to increased forecast demand and decreased generation availability.</p> <p>An update to the forecast LOR1 condition was issued with no significant changes (4 day lead time).</p> <p>The forecast LOR2 condition was cancelled due to an increase in generation availability and decrease in forecast demand.</p> <p>An update to the forecast LOR1 condition was issued with an effective period of 18:30 - 19:00, 19:30 - 20:00 (4 day lead time). The forecast LOR1 condition improved due to an increase in generation availability.</p> <p>An additional update to the forecast LOR1 condition was issued with a shortened effective period of 18:30 - 19:00 (3 day lead time). The forecast LOR1 condition improved due to an increase in generation availability.</p> <p>The forecast LOR1 condition was cancelled due to decrease in forecast demand and an increase in generation availability.</p> <p>Forecast LOR1 conditions were later redeclared with effective periods of 18:00 - 19:00, 19:30 - 20:00 (6 hour lead time) due to sudden decrease in generation availability.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|---|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| | | | | | | | | The forecast LOR1 condition was cancelled due to an increase in generation availability. Forecast LOR1 conditions were later redeclared with effective periods of 18:00 - 19:00, 19:30 - 20:00 (6 hour lead time) due to further increase in forecast demand. An actual LOR1 was declared due to decreased generation availability and increase in demand. Actual conditions existed from 17:30 - 18:00. |
| 21/12/2021 | QLD | | 1 | | | | | A forecast LOR1 condition was declared with an effective period of 18:00 - 20:00 (6 day lead time) due to increased forecast demand and decreased generation availability. An update to the forecast LOR1 condition was issued with no significant changes (5 day lead time). Another update to the forecast LOR1 condition was issued with an effective period of 18:30 - 19:00 (3 hour lead time). A further update to the forecast LOR1 condition was issued with an effective period of 18:00 - 19:00 (1 hour lead time). LOR condition is due to increase in forecast demand. The forecast LOR1 condition was cancelled due to an increase in net import. |
| 22/12/2021 | QLD | | 1 | | 1 | | | A forecast LOR2 condition was declared with an effective period of 17:30 - 19:30 (7 day lead time) due to high forecast demand and decreased generation availability. Forecast LOR1 conditions were declared with effective periods of 16:30 - 18:00, 19:00 - 20:00 (7 day lead time) due to increased forecast demand and decreased generation availability. An update to the forecast LOR2 condition was issued with a shortened effective period of 18:30 - 19:00 (7 day lead time). The forecast LOR2 condition improved due to increased generation availability and decreased forecast demand. An update to the forecast LOR1 condition was issued with a shortened effective period of 17:00 - 18:30, 19:00 - 20:00 (6 day lead time). The forecast LOR1 condition improved due to decreased forecast demand. The forecast LOR2 condition was cancelled due to an increase in generation availability and decrease in forecast demand. |
| 11/10/2021 | SA | | 1 | | 1 | | | A forecast LOR2 condition was declared with an effective period of 06:00 - 08:00 (4 day lead time) due to decreased generation availability. The forecast LOR2 was cancelled due to increased generation and import availability. A forecast LOR1 condition was declared with an effective period of 06:00 - 07:30 (4 day lead time) due to decreased generation availability. The forecast LOR1 condition was cancelled due to increased generation availability. |
| 12/10/2021 | SA | | 1 | | 1 | | | A forecast LOR1 condition was declared with an effective period of 05:30 - 06:00 and 07:00 - 07:30 (6 day lead time) due to decreased generation availability. A forecast LOR2 condition was declared with an effective period of 06:00 - 07:00 (6 day lead time) due to decreased generation availability. |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|---|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| | | | | | | | | <p>The forecast LOR2 condition was cancelled due to a decrease in forecast demand.</p> <p>Several updates were issued for the forecast LOR1 conditions with changes in effective period due to decreased demand and generation availability (6 day lead time).</p> <p>The forecast LOR1 condition was cancelled due to an increase in generation and import availability.</p> |
| 27/10/2021 | SA | | 1 | | 1 | | | <p>A forecast LOR2 condition was declared with an effective period of 18:00 - 19:00 (5 day lead time) due to decreased generation availability.</p> <p>The forecast LOR2 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR2 condition was declared with an effective period of 18:00 - 19:00 (4 day lead time) due to decreased generation availability.</p> <p>A forecast LOR1 condition was declared with an effective period of 17:00 - 18:00 (4 day lead time) due to decreased generation availability.</p> <p>Several updates were issued for the LOR2 forecast with changes in effective period and reserve levels (4, 3 and 2 day lead time) due to decreased generation availability and increased forecast uncertainty.</p> <p>The forecast LOR2 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR2 condition was declared with an effective period of 17:30 - 18:00 and 18:30 - 20:00 (34 hour lead time) due to decreased generation availability.</p> <p>Several updates were issued to the forecast LOR1 and LOR2 conditions with changes in effective period and reserve levels (30, 31 and 29 hour lead time) due to decreased generation availability.</p> <p>The forecast LOR1 and LOR2 conditions were cancelled due to increased generation availability.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|--|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| 28/10/2021 | SA | | 1 | | 1 | | | <p>A forecast LOR2 condition was declared with an effective period of 05:30 - 07:30 (5 day lead time) due to decreased generation availability.</p> <p>A forecast LOR1 condition was declared with an effective period of 03:00 - 03:30 (5 day lead time) due to decreased generation availability.</p> <p>Updates were issued for the forecast LOR1 and LOR2 conditions with changes in effective period and reduced reserve (5 day lead time) due to decreased generation availability.</p> <p>The forecast LOR2 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR2 condition was declared with an effective period of 06:00 - 07:00 (4 day lead time) due to decreased generation availability.</p> <p>The forecast LOR2 condition was cancelled due to increased generation availability.</p> <p>An update was issued for the LOR1 forecast with a change in effective period and reduced reserve level (4 day lead time) due to decreased generation availability.</p> <p>A forecast LOR2 condition was declared with an effective period of 05:30 - 06:00 (3 day lead time) due to decreased generation availability.</p> <p>Several updates were issued for the forecast LOR2 condition with changes in effective period and reserve levels (71, 69 and 68 hour lead time) due to decreased generation availability and increased forecast uncertainty.</p> <p>The forecast LOR1 and LOR2 conditions were cancelled due to increased generation availability.</p> |
| 03/11/2021 | SA | | 1 | | 1 | | | <p>A forecast LOR2 condition was declared with an effective period of 08:30 - 09:00 (21 hour lead time) due to decreased generation availability.</p> <p>A forecast LOR1 condition was declared with an effective period of 09:00 - 10:00 (20 hour lead time) due to decreased generation availability.</p> <p>An update was issued to the forecast LOR2 with the same effective period and decreased reserve level (20 hour lead time) due to decreased generation availability.</p> <p>The forecast LOR1 and LOR2 conditions were cancelled due to increased generation availability.</p> |
| 17/11/2021 | SA | | | | 1 | | | <p>A forecast LOR2 condition was declared with an effective period of 16:30 - 18:00 (29 hour lead time) due to decreased generation and import availability.</p> <p>The forecast LOR2 condition was cancelled due to increased generation availability.</p> |
| 23/11/2021 | SA | | 1 | | 1 | | | <p>A forecast LOR2 condition was declared with an effective period of 12:30 - 15:00 (29 hour lead time) due to decreased generation and import availability.</p> <p>The forecast LOR2 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR1 condition was declared with an effective period of 12:30 - 14:30 and 15:30 - 16:00 (26 hour lead time) due to decreased generation and import availability.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|--------|----------|--------|----------|--------|----------|--|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| | | | | | | | | <p>A forecast LOR2 condition was declared with an effective period of 14:30 - 15:00 (26 hour lead time) due to decreased generation and import availability.</p> <p>The forecast LOR2 and LOR1 conditions were cancelled due to increased generation availability.</p> |
| 30/11/2021 | SA | | 1 | | 1 | | | <p>A forecast LOR1 condition was declared with an effective period of 18:00 - 20:00 (4 day lead time) due to decreased generation availability and increased demand forecast.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR2 condition was declared with an effective period of 19:00 - 19:30 (61 hour lead time) due to decreased generation availability and increased demand forecast.</p> <p>The forecast LOR2 condition was cancelled due to increased generation availability.</p> <p>A forecast LOR2 condition was declared with an effective period of 18:30 - 19:30 (56 hour lead time) due to decreased generation availability and increased demand forecast.</p> <p>An update was issued to the forecast LOR2 condition with a change in effective period (53 hour lead time) due to decreased generation availability.</p> <p>A forecast LOR1 condition was declared with an effective period of 18:00 - 20:00 (45 hour lead time) due to decreased generation availability and increased demand forecast.</p> <p>An update was issued to the forecast LOR2 condition with a change in effective period and worsened reserve level (41 hour lead time) due to decreased generation availability.</p> <p>The forecast LOR2 and LOR1 conditions were cancelled due to increased generation availability.</p> |
| 12/12/2021 | SA | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 18:30 - 20:30 (31 hour lead time) due to decreased generation availability.</p> <p>Several updates were issued with a change in effective period and reserve levels due to decreased generation availability (26, 16 and 6 hour lead times).</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> |
| 30/12/2021 | SA | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 17:30 - 20:00 (6 day lead time) due to increased demand and decreased generation availability.</p> <p>An update was issued to the LOR1 forecast (5 day lead time) with a change in effective period due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p> |

Lack of Reserve conditions declared

| Effective date ^A | Region | LOR1 | | LOR2 | | LOR3 | | Cause and resolution |
|-----------------------------|--------|----------|-----------|----------|-----------|----------|----------|--|
| | | Actual | Forecast | Actual | Forecast | Actual | Forecast | |
| 08/10/2021 | TAS | | | | 1 | | | <p>A forecast LOR2 condition was declared with an effective period 09:00 - 11:00 (20 hour lead time) due to zero net import and constrained generation as a result of a planned outage of a major network element. Basslink was unavailable during this period.</p> <p>An update to the forecast LOR2 condition was issued with no significant changes (17 hour lead time).</p> <p>The forecast LOR2 condition was cancelled due to a decrease in FUM. Subsequent analysis revealed that the FUM value was too high for this power system configuration because FUM calculation for Tasmania does not factor in network outages.</p> |
| 12/10/2021 | TAS | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 07:00 - 07:30 (18 hour lead time) due to a decrease in net import and decreased generation availability. Basslink was unavailable during the effective period, net import into Tasmania was zero.</p> <p>The forecast LOR1 condition was cancelled due to an increase in net import (Basslink became available).</p> |
| 08/12/2021 | TAS | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period 07:00 - 08:00 (40 hour lead time) due to a network outage which placed multiple generating units on a single largest credible contingency.</p> <p>An update to the forecast LOR1 condition was issued with no significant changes (17 hour lead time).</p> <p>The forecast LOR1 condition was cancelled due to an increase in generation availability.</p> |
| 14/12/2021 | TAS | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 07:00 - 08:30 (14 hour lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to an increase in generation availability.</p> |
| 15/12/2021 | TAS | | 1 | | | | | <p>A forecast LOR1 condition was declared with an effective period of 06:30 - 07:30 (17 hour lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due to an increase in generation availability.</p> |
| 30/11/2021 | VIC | | | | | | | <p>A forecast LOR1 condition was declared with an effective period of 17:00 - 19:30 (1 hour lead time) due to reduced net import.</p> <p>An update to the forecast LOR1 condition was issued with an effective period of 18:00 - 18:30 (1 hour lead time). The forecast reserve condition improved due to an increase in generation availability.</p> <p>A market notice was issued (1 hour lead time) declaring the previous LOR1 forecast as suspect. Investigation found an issue with the VIC_NIL_1 constraint set which was reducing the VIC-NSW import limit. The forecast LOR1 condition was cancelled.</p> |
| Total | | 7 | 29 | 1 | 18 | 0 | 0 | |

A. Effective date is the date on which the condition occurred or was expected to occur, and may differ from the date on which a market notice advising of the forecast or actual condition was issued.

Table 2 LOR notices declared during the reporting period from 1 October to 31 December 2021

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-------------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| New South Wales region | | | | | | | | | |
| 11/11/2021 16:30 - 18:00 | 92329 | 11/11/2021 08:52 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and decreased generation availability. | 1,430 | 1,290 | 756 | LCR2 |
| 11/11/2021 | 92340 | 11/11/2021 14:16 | LOR1 | Cancelled | This cancelled MN 92329. Forecast LOR1 cancelled due to increased generation availability and increased net import. | 1,430 | 1,646 | 575 | LCR2 |
| 21/12/2021 15:30 - 16:00 | 93317 | 20/12/2021 20:51 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and reduced net import. | 1,475 | 1,471 | 1,028 | LCR2 |
| 21/12/2021 17:00 - 18:00 | 93317 | 20/12/2021 20:51 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and reduced net import. | 1,398 | 1,301 | 1,032 | LCR2 |
| 21/12/2021 15:30 - 16:00 | 93319 | 21/12/2021 08:52 | LOR1 | Update | Update to MN 93317 due to change in forecast reserve level. The forecast LOR1 condition worsened due to reduced net import. | 1,449 | 1,367 | 842 | LCR2 |
| 21/12/2021 16:30 - 18:00 | 93319 | 21/12/2021 08:52 | LOR1 | Update | Update to MN 93317 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to reduced net import. | 1,415 | 1,186 | 838 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 21/12/2021 17:00 - 18:00 | 93320 | 21/12/2021 11:51 | LOR1 | Update | Update to MN 93319 due to change in effective period and forecast reserve level. The forecast LOR1 condition improved due to a decrease in forecast demand and increased net import. | 1,390 | 1,255 | 813 | LCR2 |
| 21/12/2021 | 93325 | 21/12/2021 14:27 | LOR1 | Cancelled | This cancelled MN 93320. Forecast LOR1 cancelled due to a decrease in forecast demand and increased net import. | 1,390 | 1,441 | 637 | LCR2 |
| Queensland region | | | | | | | | | |
| 11/10/2021 17:30 - 19:00 | 91626 | 11/10/2021 12:23 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability and reduced net import. | 1,163 | 1,123 | 430 | LCR2 |
| 11/10/2021 | 91635 | 11/10/2021 14:26 | LOR1 | Cancelled | This cancelled MN 91626. Forecast LOR1 cancelled due to a decrease in forecast demand and increased generation availability. | 1,186 | 1,211 | 404 | LCR2 |
| 11/10/2021 18:30 - 19:00 | 91643 | 11/10/2021 18:19 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and reduced net import. | 1,186 | 1,166 | 238 | LCR2 |
| 11/10/2021 | 91644 | 11/10/2021 18:46 | LOR1 | Cancelled | This cancelled MN 91643. Forecast LOR1 cancelled due to a decrease in forecast demand and increased net import. | 1,186 | 1,238 | 160 | LCR2 |
| 14/10/2021 18:30 - 19:00 | 91569 | 09/10/2021 15:17 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 1,163 | 1,140 | n/a – forecast > 72 hrs ahead | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|---|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 14/10/2021 | 91618 | 10/10/2021 14:24 | LOR1 | Cancelled | This cancelled MN 91569. Forecast LOR1 cancelled due to a decrease in forecast demand and increased net import. | 1,163 | 1,237 | n/a – forecast > 72 hrs ahead | LCR2 |
| 14/10/2021 17:30 - 20:00 | 91688 | 14/10/2021 10:19 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and decreased generation availability. | 1,104 | 769 | 385 | LCR2 |
| 14/10/2021 17:30 - 19:00; 19:30 - 20:00 | 91697 | 14/10/2021 15:13 | LOR1 | Update | Update to MN 91688 due to change in effective period and forecast reserve level. The forecast LOR1 condition improved due to increased generation availability, increased net import and a decrease in forecast demand. | 1,103 | 971 | 424 | LCR2 |
| 14/10/2021 17:30 - 19:00 | 91707 | 14/10/2021 17:41 | LOR1 | Actual | Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition. | 1,132 | 1,044 | 268 | LCR2 |
| 14/10/2021 | 91712 | 14/10/2021 18:49 | LOR1 | Cancelled | This cancelled MN 91707. Actual LOR1 cancelled due to a decrease in demand and increased generation availability, and the condition cleared after effective period. | 1,170 | 1,195 | 160 | LCR2 |
| 24/10/2021 17:30 - 19:00 | 91866 | 21/10/2021 14:27 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and decreased generation availability. | 914 | 755 | n/a – forecast > 72 hrs ahead | LCR2 |
| 24/10/2021 18:00 - 19:00 | 91868 | 21/10/2021 19:47 | LOR2 | Forecast | Forecast LOR2 declared due to an increase in forecast demand and decreased generation availability. | 756 | 740 | 756 | FUM |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 24/10/2021 | 91869 | 22/10/2021 01:30 | LOR2 | Cancelled | This cancelled MN 91868. Forecast LOR2 cancelled due to a decrease in forecast demand and increased generation availability. | 686 | 788 | 686 | FUM |
| 24/10/2021 17:30 - 19:30 | 91872 | 22/10/2021 14:33 | LOR1 | Update | Update to MN 91866 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to decreased generation availability. | 942 | 681 | 658 | LCR2 |
| 24/10/2021 17:30 - 19:00 | 91901 | 23/10/2021 12:53 | LOR1 | Update | Update to MN 91872 due to change in effective period and forecast reserve level. The forecast LOR1 condition improved due to increased generation availability and increased net import. | 978 | 905 | 612 | LCR2 |
| 24/10/2021 | 91913 | 23/10/2021 17:22 | LOR1 | Cancelled | This cancelled MN 91901. Forecast LOR1 cancelled due to increased generation availability. | 942 | 943 | 550 | LCR2 |
| 24/10/2021 18:00 - 18:30 | 91914 | 23/10/2021 17:49 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and decreased generation availability. | 942 | 935 | 526 | LCR2 |
| 24/10/2021 | 91922 | 24/10/2021 09:17 | LOR1 | Cancelled | This cancelled MN 91914. Forecast LOR1 cancelled due to a decrease in forecast demand and increased net import. | 1,053 | 1,072 | 393 | LCR2 |
| 25/10/2021 18:30 - 19:00 | 91838 | 20/10/2021 14:43 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 914 | 879 | n/a – forecast > 72 hrs ahead | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 25/10/2021 | 91860 | 21/10/2021 14:27 | LOR1 | Cancelled | This cancelled MN 91838. Forecast LOR1 cancelled due to increased generation availability. | 914 | 947 | n/a – forecast > 72 hrs ahead | LCR2 |
| 25/10/2021 18:00 - 19:00 | 91872 | 22/10/2021 14:33 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 914 | 867 | n/a – forecast > 72 hrs ahead | LCR2 |
| 26/10/2021 18:00 - 19:00 | 91959 | 26/10/2021 11:52 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and decreased generation availability. | 1,186 | 1,140 | 405 | LCR2 |
| 26/10/2021 | 91967 | 26/10/2021 13:56 | LOR1 | Cancelled | This cancelled MN 91959. Forecast LOR1 cancelled due to increased generation availability. | 1,186 | 1,236 | 415 | LCR2 |
| 26/10/2021 18:00 - 19:00 | 91970 | 26/10/2021 14:50 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and decreased generation availability. | 1,186 | 1,133 | 404 | LCR2 |
| 26/10/2021 18:00 - 19:00 | 91976 | 26/10/2021 18:25 | LOR1 | Actual | Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition. | 942 | 844 | 205 | LCR2 |
| 26/10/2021 | 91978 | 26/10/2021 19:50 | LOR1 | Cancelled | This cancelled MN 91976. Actual LOR1 cancelled as condition cleared after effective period. | 942 | 968 | 160 | LCR2 |
| 28/10/2021 17:30 - 19:00 | 92008 | 28/10/2021 17:18 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and decreased generation availability. | 1,005 | 586 | 306 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 28/10/2021 17:30 - 18:30 | 92009 | 28/10/2021 17:48 | LOR1 | Actual | Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition. | 1,004 | 602 | 160 | LCR2 |
| 28/10/2021 18:30 - 19:00 | 92010 | 28/10/2021 17:51 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability and reduced net import. | 535 | 460 | 265 | LCR |
| 28/10/2021 18:00 - 19:00 | 92012 | 28/10/2021 18:19 | LOR2 | Actual | Actual LOR2 declared. Decreased generation availability and reduced net import caused an actual LOR2 condition. | 551 | 440 | 238 | LCR |
| 28/10/2021 | 92014 | 28/10/2021 18:49 | LOR2 | Cancelled | This cancelled MN 92012. Actual LOR2 cancelled due to a decrease in demand and the condition cleared after effective period. | 558 | 559 | 160 | LCR |
| 28/10/2021 | 92020 | 28/10/2021 20:19 | LOR1 | Cancelled | This cancelled MN 92009. Actual LOR1 cancelled as condition cleared after effective period. | 982 | 1,324 | 160 | LCR2 |
| 30/10/2021 18:00 - 19:00 | 92056 | 30/10/2021 15:19 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand. | 1,020 | 860 | 389 | LCR2 |
| 30/10/2021 17:30 - 19:30 | 92061 | 30/10/2021 16:23 | LOR1 | Update | Update to MN 92056 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to an increase in forecast demand. | 1,022 | 788 | 356 | LCR2 |
| 30/10/2021 17:30 - 19:30 | 92063 | 30/10/2021 17:49 | LOR1 | Actual | Actual LOR1 declared. Decreased generation availability and an increase in demand caused an actual LOR1 condition. | 1,015 | 813 | 238 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 30/10/2021 | 92065 | 30/10/2021 19:18 | LOR1 | Cancelled | This cancelled MN 92063. Actual LOR1 cancelled as condition cleared after effective period. | 1,008 | 1,067 | 160 | LCR2 |
| 08/11/2021 18:30 - 19:00 | 92108 | 01/11/2021 14:38 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 911 | 848 | n/a – forecast > 72 hrs ahead | LCR2 |
| 08/11/2021 17:30 - 19:00 | 92117 | 02/11/2021 14:41 | LOR1 | Update | Update to MN 92108 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to an increase in forecast demand and decreased generation availability. | 918 | 771 | n/a – forecast > 72 hrs ahead | LCR2 |
| 08/11/2021 | 92138 | 03/11/2021 14:45 | LOR1 | Cancelled | This cancelled MN 92117. Forecast LOR1 cancelled due to increased generation availability. | 917 | 1,014 | n/a – forecast > 72 hrs ahead | LCR2 |
| 08/11/2021 18:30 - 19:00 | 92191 | 07/11/2021 12:51 | LOR1 | Forecast | Forecast LOR1 declared due to reduced net import and decreased generation availability. | 1,163 | 1,129 | 607 | LCR2 |
| 08/11/2021 | 92193 | 07/11/2021 13:51 | LOR1 | Cancelled | This cancelled MN 92191. Forecast LOR1 cancelled due to increased generation availability. | 1,163 | 1,166 | 585 | LCR2 |
| 08/11/2021 18:30 - 19:00 | 92196 | 07/11/2021 14:48 | LOR1 | Forecast | Forecast LOR1 declared due to reduced net import. | 1,163 | 1,135 | 560 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 08/11/2021 | 92204 | 07/11/2021 17:20 | LOR1 | Cancelled | This cancelled MN 92196. Forecast LOR1 cancelled due to increased generation availability. | 1,186 | 1,223 | 522 | LCR2 |
| 08/11/2021 18:30 - 19:00 | 92210 | 07/11/2021 20:46 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand. | 1,186 | 1,129 | 589 | LCR2 |
| 8/11/2021 18:00 - 19:00 | 92220 | 08/11/2021 07:20 | LOR1 | Update | Update to MN 92210 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to an increase in forecast demand and decreased generation availability. | 1,186 | 1,003 | 472 | LCR2 |
| 8/11/2021 17:30 - 19:30 | 92224 | 08/11/2021 13:04 | LOR1 | Update | Update to MN 92220 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to decreased generation availability. | 1,186 | 788 | 425 | LCR2 |
| 8/11/2021 18:30 - 19:00 | 92231 | 08/11/2021 14:23 | LOR2 | Forecast | Forecast LOR2 declared due to an increase in forecast demand and decreased generation availability. | 720 | 687 | 452 | LCR |
| 8/11/2021 18:00 - 19:00 | 92238 | 08/11/2021 15:18 | LOR2 | Update | Update to MN 92231 due to change in effective period and forecast reserve level. The forecast LOR2 condition worsened due to decreased generation availability. | 720 | 540 | 389 | LCR |
| 08/11/2021 | 92244 | 08/11/2021 15:56 | LOR2 | Cancelled | This cancelled MN 92238. Forecast LOR2 cancelled due to increased net import and increased generation availability. | 720 | 909 | 372 | LCR |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 8/11/2021 17:00 - 20:00 | 92249 | 08/11/2021 16:50 | LOR1 | Update | Update to MN 92224 due to change in effective period and forecast reserve level. The effective period extended but the forecast reserve level improved due to a decrease in forecast demand and increased net import. | 1,186 | 970 | 321 | LCR2 |
| 8/11/2021 18:00 - 20:00 | 92253 | 08/11/2021 18:23 | LOR1 | Actual | Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition. | 1,186 | 952 | 238 | LCR2 |
| 08/11/2021 | 92254 | 08/11/2021 19:26 | LOR1 | Cancelled | This cancelled MN 92253. Actual LOR1 cancelled as condition cleared after effective period. | 1,186 | 1,219 | 160 | LCR2 |
| 08/11/2021 | 92255 | 08/11/2021 19:30 | LOR1 | Cancelled | This cancelled MN 92249. Forecast LOR1 cancelled due to a decrease in demand and increased generation availability. | 1,186 | 1,219 | 160 | LCR2 |
| 09/11/2021 17:30 - 19:30 | 92117 | 02/11/2021 14:41 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 1,077 | 849 | n/a – forecast > 72 hrs ahead | LCR2 |
| 09/11/2021 18:30 - 19:00 | 92138 | 03/11/2021 14:45 | LOR1 | Update | Update to MN 92117 due to change in effective period and forecast reserve level. The forecast LOR1 condition improved due to increased generation availability. | 1,100 | 1,083 | n/a – forecast > 72 hrs ahead | LCR2 |
| 09/11/2021 | 92148 | 04/11/2021 14:44 | LOR1 | Cancelled | This cancelled MN 92138. Forecast LOR1 cancelled due to increased generation availability. | 1,117 | 1,297 | n/a – forecast > 72 hrs ahead | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 09/11/2021 17:30 - 19:00 | 92257 | 9/11/2021 06:17 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability and reduced net import. | 1,186 | 1,111 | 482 | LCR2 |
| 09/11/2021 17:00 - 20:00 | 92262 | 9/11/2021 12:47 | LOR1 | Update | Update to MN 92257 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to a decrease in generation availability. | 1,186 | 980 | 426 | LCR2 |
| 9/11/2021 | 92281 | 9/11/2021 18:45 | LOR1 | Cancelled | This cancelled MN 92262. Forecast LOR1 cancelled due to decrease in forecast demand and an increase in generation availability. | 1,117 | 1,199 | 272 | LCR |
| 11/11/2021 18:30 - 19:00 | 92195 | 07/11/2021 14:19 | LOR1 | Forecast | Forecast LOR1 declared due to reduced net import and an increase in forecast demand. | 1,148 | 1,128 | n/a – forecast > 72 hrs ahead | LCR2 |
| 11/11/2021 17:30 - 19:30 | 92232 | 08/11/2021 14:47 | LOR1 | Update | Update to MN 92195 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to an increase in forecast demand. | 1,186 | 976 | n/a – forecast > 72 hrs ahead | LCR2 |
| 11/11/2021 17:00 - 20:00 | 92268 | 9/11/2021 14:50 | LOR1 | Update | Update to MN 92232 due to change in effective period and forecast reserve level. The forecast LOR1 condition worsened due to a decrease in generation availability. | 1,145 | 811 | 731 | LCR2 |
| 11/11/2021 | 92296 | 10/11/2021 14:49 | LOR1 | Cancelled | This cancelled MN 92268. Forecast LOR1 cancelled due to an increase in generation availability and decrease in forecast demand. | 1,129 | 1,201 | 607 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|---|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 11/11/2021 18:30 - 19:00 | 92331 | 11/11/2021 10:16 | LOR1 | Forecast | Forecast LOR1 redeclared due to decreased generation availability and reduced net import. | 1,184 | 1,115 | 409 | LCR2 |
| 11/11/2021 17:30 - 19:00, 20:00 - 20:30 | 92337 | 11/11/2021 12:37 | LOR1 | Update | Update to MN 92331 due to change in effective period. The forecast LOR1 condition worsened due to a decrease in generation availability. | 1,184 | 1,041 | 418 | LCR2 |
| 11/11/2021 | 92345 | 11/11/2021 15:25 | LOR1 | Cancelled | This cancelled MN 92337. Forecast LOR1 cancelled due to decrease in forecast demand and increase in generation availability. | 1,183 | 1,206 | 389 | LCR2 |
| 12/11/2021 16:00 - 20:00 | 92233 | 08/11/2021 14:48 | LOR1 | Forecast | Forecast LOR1 declared due to an increase in forecast demand and decreased generation availability. | 1,083 | 704 | n/a – forecast > 72 hrs ahead | LCR2 |
| 12/11/2021 16:30 - 17:00 | 92279 | 9/11/2021 17:27 | LOR2 | Forecast | Forecast LOR2 declared due to reduced net import and an increase in the FUM. | 774 | 735 | 774 | FUM |
| 12/11/2021 16:30 - 19:00 | 92282 | 9/11/2021 19:32 | LOR2 | Update | Update to MN 92279 due to change in effective period and forecast reserve level. The forecast LOR2 condition was extended as this period rolled into the 72 hour period where FUM applies. | 842 | 719 | 842 | FUM |
| 12/11/2021 16:30 - 20:00 | 92284 | 9/11/2021 21:20 | LOR2 | Update | Update to MN 92282 due to change in effective period. The forecast LOR2 condition was extended as this period rolled into the 72 hour period where FUM applies. | 809 | 713 | 809 | FUM |
| 12/11/2021 | 92288 | 10/11/2021 00:21 | LOR2 | Cancelled | This cancelled MN 92284. Forecast LOR2 cancelled due to decrease in forecast demand, | 717 | 762 | 717 | FUM |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| | | | | | decrease in FUM and an increase in generation availability. | | | | |
| 12/11/2021 16:30 - 19:30 | 92297 | 10/11/2021 14:50 | LOR1 | Update | Update to MN 92233 due to change in effective period. The forecast LOR1 condition improved due to decreased forecast demand. | 1,083 | 881 | 703 | LCR2 |
| 12/11/2021 | 92343 | 11/11/2021 14:54 | LOR1 | Cancelled | This cancelled MN 92297. Forecast LOR1 cancelled due to decrease in forecast demand and increase in generation availability. | 1,088 | 1,308 | 592 | LCR2 |
| 22/11/2021 17:30 - 19:30 | 92423 | 15/11/2021 14:38 | LOR1 | Forecast | Forecast LOR1 declared due to high forecast demand. | 914 | 614 | n/a – forecast > 72 hrs ahead | LCR2 |
| 22/11/2021 17:30 - 19:30 | 92431 | 16/11/2021 00:37 | LOR2 | Forecast | Forecast LOR2 declared due to further increase in forecast demand and decrease in generation availability. | 487 | 329 | n/a – forecast > 72 hrs ahead | LCR |
| 22/11/2021 18:00 - 19:00 | 92439 | 16/11/2021 08:49 | LOR2 | Update | Update to MN 92431 due to change in effective period and forecast reserve level. The forecast LOR2 condition improved due to increased generation availability and decreased forecast demand. | 487 | 362 | n/a – forecast > 72 hrs ahead | LCR |
| 22/11/2021 | 92442 | 16/11/2021 10:37 | LOR2 | Cancelled | This cancelled MN 92439. Forecast LOR2 cancelled due to increase in generation availability. | 479 | 488 | n/a – forecast > 72 hrs ahead | LCR |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|---|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 22/11/2021 16:30 - 20:00 | 92484 | 17/11/2021 14:51 | LOR1 | Update | Update to MN 92423 due to change in effective period. The forecast LOR1 condition worsened due to an increase in forecast demand. | 914 | 556 | n/a – forecast > 72 hrs ahead | LCR2 |
| 22/11/2021 | 92537 | 18/11/2021 14:29 | LOR1 | Cancelled | This cancelled MN 92484. Forecast LOR1 cancelled due to decreased forecast demand. | 870 | 1025 | n/a – forecast > 72 hrs ahead | LCR2 |
| 23/11/2021 17:30 - 19:30 | 92446 | 16/11/2021 13:40 | LOR2 | Forecast | Forecast LOR2 declared due to high forecast demand. | 487 | 258 | n/a – forecast > 72 hrs ahead | LCR |
| 23/11/2021 16:30 - 17:30, 19:30 - 20:30 | 92450 | 16/11/2021 14:43 | LOR1 | Forecast | Forecast LOR1 declared due to high forecast demand. | 914 | 584 | n/a – forecast > 72 hrs ahead | LCR2 |
| 23/11/2021 | 92458 | 16/11/2021 15:37 | LOR2 | Cancelled | This cancelled MN 92446. Forecast LOR2 cancelled due to decreased forecast demand. | 479 | 517 | n/a – forecast > 72 hrs ahead | LCR |
| 23/11/2021 17:00 - 19:30 | 92485 | 17/11/2021 14:52 | LOR1 | Update | Update to MN 92450 due to change in effective period and forecast reserve level. The forecast LOR1 condition improved due to decreased forecast demand. | 914 | 778 | n/a – forecast > 72 hrs ahead | LCR2 |
| 23/11/2021 | 92538 | 18/11/2021 14:30 | LOR1 | Cancelled | This cancelled MN 92485. Forecast LOR1 cancelled due to decreased forecast demand. | 914 | 1324 | n/a – forecast > 72 hrs ahead | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 9/12/2021 19:30 - 20:00 | 92977 | 6/12/2021 14:43 | LOR1 | Forecast | Forecast LOR1 declared due to increase in forecast demand. | 892 | 835 | n/a – forecast > 72 hrs ahead | LCR2 |
| 9/12/2021 | 93001 | 8/12/2021 07:22 | LOR1 | Cancelled | This cancelled MN 92977. Forecast LOR1 cancelled due to a decrease in forecast demand. | 892 | 1020 | 680 | LCR2 |
| 9/12/2021 18:30 - 19:30 | 93022 | 8/12/2021 14:28 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability and increase in forecast demand. | 930 | 850 | 576 | LCR2 |
| 9/12/2021 | 93037 | 8/12/2021 23:57 | LOR1 | Cancelled | This cancelled MN 93022. Forecast LOR1 cancelled due to an increase in generation availability and decrease in forecast demand. | 946 | 1,006 | 474 | LCR2 |
| 9/12/2021 18:30 - 19:00 | 93046 | 9/12/2021 14:10 | LOR1 | Forecast | Forecast LOR1 declared due to increase in forecast demand. | 1,004 | 986 | 440 | LCR2 |
| 9/12/2021 18:30 - 19:30 | 93050 | 9/12/2021 14:55 | LOR1 | Correction | Correction to MN 88523. The market notice type was corrected to Reserve Notice from Market Intervention. | 995 | 949 | 402 | LCR2 |
| 9/12/2021 17:00 - 20:00 | 93065 | 9/12/2021 16:58 | LOR1 | Update | Update to the LOR1 condition forecast in MN 93050 with changes in effective period due to increase in forecast demand and decreased generation availability. | 1,092 | 888 | 265 | LCR2 |
| 9/12/2021 17:00 - 20:00 | 93066 | 9/12/2021 17:19 | LOR1 | Actual | Actual LOR1 declared. Decreased generation availability and increase in demand caused an actual LOR1 condition. | 1,089 | 763 | 265 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|---|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 9/12/2021 18:30 - 19:30 | 93072 | 9/12/2021 17:51 | LOR2 | Forecast | Forecast LOR2 declared due to increase in forecast demand and decreased generation availability. | 606 | 578 | 265 | LCR |
| 9/12/2021 | 93073 | 9/12/2021 18:21 | LOR2 | Cancelled | This cancelled MN 93072. Forecast LOR2 cancelled due to an increase in generation availability and decrease in forecast demand. | 539 | 672 | 272 | LCR |
| 9/12/2021 | 93078 | 9/12/2021 19:48 | LOR1 | Cancelled | This cancelled MN 93066. The actual LOR1 was cancelled when the effective period elapsed. | 1,096 | 1,324 | 160 | LCR2 |
| 11/12/2021 18:30 - 20:00 | 93023 | 8/12/2021 14:42 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 892 | 733 | n/a – forecast > 72 hrs ahead | LCR2 |
| 11/12/2021 | 93049 | 9/12/2021 15:06 | LOR1 | Cancelled | This cancelled MN 93023. Forecast LOR1 cancelled due to decrease in forecast demand. | 892 | 908 | 731 | LCR2 |
| 12/12/2021 19:30 - 20:00 | 93047 | 9/12/2021 15:06 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 892 | 870 | n/a – forecast > 72 hrs ahead | LCR2 |
| 15/12/2021 18:00 - 20:00 | 93023 | 8/12/2021 14:42 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability and high forecast demand. | 892 | 733 | n/a – forecast > 72 hrs ahead | LCR2 |
| 15/12/2021 18:30 - 19:00, 19:30 - 20:00 | 93047 | 9/12/2021 15:06 | LOR1 | Update | Update to MN 93023. Forecast LOR1 declared due to decreased generation availability and high forecast demand. | 892 | 798 | n/a – forecast > 72 hrs ahead | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|---|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 15/12/2021 | 93105 | 10/12/2021 14:52 | LOR1 | Cancelled | This cancelled MN 93047. Forecast LOR1 cancelled due to decrease in forecast demand and an increase in generation availability. | 892 | 1,243 | n/a – forecast > 72 hrs ahead | LCR2 |
| 16/12/2021 16:30 - 17:00, 17:30 - 20:00 | 93047 | 9/12/2021 15:06 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability and high forecast demand. | 892 | 604 | n/a – forecast > 72 hrs ahead | LCR2 |
| 16/12/2021 18:00 - 19:00, 19:30 - 20:00 | 93064 | 9/12/2021 17:13 | LOR2 | Forecast | Forecast LOR2 declared due to increased forecast demand and decreased generation availability. | 457 | 421 | n/a – forecast > 72 hrs ahead | LCR |
| 16/12/2021 | 93102 | 10/12/2021 07:42 | LOR2 | Cancelled | This cancelled MN 93064. Forecast LOR2 cancelled due to an increase in generation availability and decrease in forecast demand. | 457 | 562 | n/a – forecast > 72 hrs ahead | LCR |
| 20/12/2021 19:30 - 20:00 | 93189 | 15/12/2021 07:38 | LOR2 | Forecast | Forecast LOR2 declared due to increase in forecast demand and decreased generation availability. | 457 | 444 | n/a – forecast > 72 hrs ahead | LCR |
| 20/12/2021 | 93192 | 15/12/2021 10:55 | LOR2 | Cancelled | This cancelled MN 93189. Forecast LOR2 cancelled due to an increase in generation availability. | 457 | 465 | n/a – forecast > 72 hrs ahead | LCR |
| 20/12/2021 19:30 - 20:00 | 93193 | 15/12/2021 12:40 | LOR2 | Forecast | Forecast LOR2 declared due to increased forecast demand. | 457 | 455 | n/a – forecast > 72 hrs ahead | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|---|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 20/12/2021 17:30 - 19:30 | 93197 | 15/12/2021 14:40 | LOR1 | Forecast | Forecast LOR1 declared due to increased forecast demand and decreased generation availability. | 1,016 | 776 | n/a – forecast > 72 hrs ahead | LCR2 |
| 20/12/2021 17:30 - 19:30 | 93203 | 16/12/2021 06:03 | LOR1 | Update | Update to MN 93197 due to change in forecast reserve level. The forecast LOR1 condition worsened due to decreased generation availability. | 892 | 739 | n/a – forecast > 72 hrs ahead | LCR2 |
| 20/12/2021 | 93204 | 16/12/2021 07:46 | LOR2 | Cancelled | This cancelled MN 93193. Forecast LOR2 cancelled due to an increase in generation availability and decrease in forecast demand. | 457 | 805 | n/a – forecast > 72 hrs ahead | LCR |
| 20/12/2021 18:30 - 19:00, 19:30 - 20:00 | 93208 | 16/12/2021 14:56 | LOR1 | Update | Update to MN 93203 due to change in effective period and forecast reserve level. The forecast condition worsened due to an increase in forecast demand. | 892 | 680 | n/a – forecast > 72 hrs ahead | LCR2 |
| 20/12/2021 18:30 - 19:00 | 93226 | 17/12/2021 14:30 | LOR1 | Update | Update to MN 93208 due to change in effective period and forecast reserve level. The forecast LOR1 condition improved due to an increase in generation availability. | 1,077 | 1,056 | n/a – forecast > 72 hrs ahead | LCR2 |
| 20/12/2021 | 93267 | 18/12/2021 15:05 | LOR1 | Cancelled | This cancelled MN 93226. Forecast LOR1 cancelled due to decrease in forecast demand and an increase in generation availability. | 1,062 | 1,315 | 759 | LCR2 |
| 20/12/2021 18:00 - 19:00, 19:30 - 20:00 | 93305 | 20/12/2021 12:10 | LOR1 | Forecast | Forecast LOR1 declared due to sudden decrease in generation availability. | 1,110 | 945 | 413 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 20/12/2021 | 93306 | 20/12/2021 12:50 | LOR1 | Cancelled | This cancelled MN 93305. Forecast LOR1 cancelled due to an increase in generation availability. | 1,108 | 1,126 | 425 | LCR2 |
| 20/12/2021 18:30 - 19:00 | 93314 | 20/12/2021 16:36 | LOR1 | Forecast | Forecast LOR1 declared due to further increase in forecast demand. | 1,131 | 1,066 | 413 | LCR2 |
| 20/12/2021 17:30 - 18:00 | 93315 | 20/12/2021 17:49 | LOR1 | Actual | Actual LOR1 declared. Decreased generation availability and increase in demand caused an actual LOR1 condition. | 1,058 | 992 | 160 | LCR2 |
| 20/12/2021 | 93316 | 20/12/2021 19:25 | LOR1 | Cancelled | This cancelled MN 93315. The actual LOR1 was cancelled when the effective period elapsed. | 1,053 | 1,142 | 160 | LCR2 |
| 21/12/2021 18:00 - 20:00 | 93197 | 15/12/2021 14:40 | LOR1 | Forecast | Forecast LOR1 declared due to increased forecast demand and decreased generation availability. | 988 | 821 | n/a – forecast > 72 hrs ahead | LCR2 |
| 21/12/2021 18:00 - 20:00 | 93203 | 16/12/2021 06:03 | LOR1 | Update | Update to MN 93197 due to change in forecast reserve level. Forecast LOR1 condition worsened due to decreased generation availability. | 892 | 736 | n/a – forecast > 72 hrs ahead | LCR2 |
| 21/12/2021 18:30 - 19:00 | 93327 | 21/12/2021 15:52 | LOR1 | Forecast | Forecast LOR1 declared due to increase in forecast demand. | 1,154 | 1,115 | 374 | LCR2 |
| 21/12/2021 18:00 - 19:00 | 93332 | 21/12/2021 17:25 | LOR1 | Forecast | Forecast LOR1 declared due to increase in forecast demand. | 1,176 | 1,040 | 306 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|---|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 21/12/2021 | 93333 | 21/12/2021 18:20 | LOR1 | Cancelled | This cancelled MN 93332. Forecast LOR1 cancelled due to an increase in net import. | 1,078 | 1,133 | 238 | LCR2 |
| 22/12/2021 17:30 - 19:00 | 93195 | 15/12/2021 12:40 | LOR2 | Forecast | Forecast LOR2 declared due to high forecast demand and decreased generation availability. | 562 | 296 | n/a – forecast > 72 hrs ahead | LCR2 |
| 22/12/2021 16:30 - 18:00, 22/12/2021 19:00 - 20:00 | 93197 | 15/12/2021 14:40 | LOR1 | Forecast | Forecast LOR1 declared due to increased forecast demand and decreased generation availability. | 973 | 561 | n/a – forecast > 72 hrs ahead | LCR |
| 22/12/2021 18:30 - 19:00 | 93202 | 16/12/2021 06:01 | LOR2 | Update | Update to MN 931951 due to change in forecast reserve level. The forecast LOR2 condition improved due to increased generation availability and decreased forecast demand. | 551 | 491 | n/a – forecast > 72 hrs ahead | LCR |
| 22/12/2021 17:00 - 18:30, 19:00 - 20:00 | 93203 | 16/12/2021 06:03 | LOR1 | Update | Update to MN 93197 due to change in forecast reserve level. The forecast LOR1 condition improved due to decreased forecast demand. | 983 | 575 | n/a – forecast > 72 hrs ahead | LCR2 |
| 22/12/2021 | 93205 | 16/12/2021 07:58 | LOR2 | Cancelled | This cancelled MN 93193. Forecast LOR2 cancelled due to an increase in generation availability and decrease in forecast demand. | 545 | 928 | n/a – forecast > 72 hrs ahead | LCR |
| South Australia region | | | | | | | | | |
| 11/10/2021 06:00 - 08:00 | 91524 | 7/10/2021 11:00 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 250 | 118 | n/a – forecast > 72 hrs ahead | LCR |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|--|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 11/10/2021 | 91526 | 7/10/2021 13:50 | LOR2 | Cancelled | This cancelled MN 91524. Forecast LOR2 cancelled due to increased generation and import availability. | 250 | 374 | n/a – forecast > 72 hrs ahead | LCR |
| 11/10/2021 06:00 - 07:30 | 91530 | 7/10/2021 15:10 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 440 | 375 | n/a – forecast > 72 hrs ahead | LCR2 |
| 11/10/2021 | 91557 | 8/10/2021 14:29 | LOR1 | Cancelled | This cancelled MN 915930. Forecast LOR1 cancelled due to increased generation and import availability. | 461 | 715 | 446 | LCR2 |
| 12/10/2021 05:30 - 06:00 07:00 - 07:30 | 91508 | 6/10/2021 04:28 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 447 | 338 | n/a – forecast > 72 hrs ahead | LCR2 |
| 12/10/2021 06:00 - 07:00 | 91509 | 6/10/2021 04:29 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 250 | 199 | n/a – forecast > 72 hrs ahead | LCR |
| 12/10/2021 | 91510 | 6/10/2021 06:37 | LOR2 | Cancelled | This cancelled MN 91509. Forecast LOR2 cancelled due to a reduction in forecast demand. | 250 | 283 | n/a – forecast > 72 hrs ahead | LCR |
| 12/10/2021 05:30 - 07:30 | 91511 | 6/10/2021 06:38 | LOR1 | Update | Update to the forecast LOR1 in MN 91508 with a change in effective period due to a reduction in forecast demand. | 445 | 284 | n/a – forecast > 72 hrs ahead | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 12/10/2021 06:00 - 07:30 | 91520 | 6/10/2021 14:40 | LOR1 | Update | Update to the LOR1 conditions forecast in MN 91508 with a change in effective period due to decreased generation availability. | 444 | 298 | n/a – forecast > 72 hrs ahead | LCR2 |
| 12/10/2021 | 91529 | 7/10/2021 15:09 | LOR1 | Cancelled | This cancelled MN 91520. Forecast LOR1 cancelled due to increased generation and import availability. | 447 | 745 | n/a – forecast > 72 hrs ahead | LCR2 |
| 27/10/2021 18:00 - 19:00 | 91880 | 22/10/2021 23:35 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 194 | 92 | n/a – forecast > 72 hrs ahead | LCR |
| 27/10/2021 | 91881 | 23/10/2021 05:49 | LOR2 | Cancelled | This cancelled MN 91880. Forecast LOR2 cancelled due to increased generation availability. | 196 | 320 | n/a – forecast > 72 hrs ahead | LCR |
| 27/10/2021 18:00 - 19:00 | 91891 | 23/10/2021 11:22 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 176 | 145 | n/a – forecast > 72 hrs ahead | LCR |
| 27/10/2021 17:00 - 18:00 | 91906 | 23/10/2021 15:28 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability | 351 | 239 | n/a – forecast > 72 hrs ahead | LCR2 |
| 27/10/2021 18:00 - 19:00 | 91907 | 23/10/2021 15:29 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 176 | 136 | n/a – forecast > 72 hrs ahead | LCR |
| 27/10/2021 18:30 - 19:00 | 91932 | 24/10/2021 20:29 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 399 | 360 | 399 | FUM |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|--|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 27/10/2021 17:30 - 19:00 | 91934 | 25/10/2021 07:15 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 485 | 262 | 485 | FUM |
| 27/10/2021 18:00 - 19:00 | 91935 | 25/10/2021 08:07 | LOR2 | Update | Update to the forecast LOR2 conditions in MN 91934 with a change in effective period and decreased reserves due to decreased generation availability and increased forecast uncertainty. | 433 | 246 | 433 | FUM |
| 27/10/2021 18:00 - 19:00 | 91936 | 25/10/2021 10:00 | LOR2 | Update | Update to the forecast LOR2 conditions in MN 91934 with decreased reserves due to decreased generation availability and increased forecast uncertainty. | 417 | 239 | 417 | FUM |
| 27/10/2021 | 91937 | 25/10/2021 10:44 | LOR2 | Cancelled | This cancelled the MN 91936. Forecast LOR2 condition was cancelled due to increased generation availability. | 416 | 546 | 416 | FUM |
| 27/10/2021 17:30 - 18:00 18:30 - 20:00 | 91956 | 26/10/2021 09:43 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 366 | 305 | 366 | FUM |
| 27/10/2021 17:30 - 18:00 18:30 - 19:00 | 91958 | 26/10/2021 11:37 | LOR2 | Update | Update to the forecast LOR2 conditions in MN 91956 with a change in effective period and decreased reserves due to decreased generation availability. | 335 | 255 | 335 | FUM |
| 27/10/2021 19:30 - 20:00 | 91961 | 26/10/2021 13:00 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 375 | 334 | 303 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|--|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 27/10/2021 17:30 - 18:00 18:30 - 19:30 | 91960 | 26/10/2021 13:01 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 321 | 249 | 321 | FUM |
| 27/10/2021 | 91971 | 26/10/2021 15:18 | LOR2 | Cancelled | This cancelled MN 91960. Forecast LOR2 conditions cancelled due to increased generation availability. | 317 | 365 | 317 | LCR |
| 27/10/2021 | 91972 | 26/10/2021 15:19 | LOR1 | Cancelled | This cancelled MN 91961. Forecast LOR1 condition cancelled due to increased generation availability. | 343 | 365 | 317 | LCR2 |
| 28/10/2021 05:30 - 07:30 | 91891 | 23/10/2021 11:22 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 182 | 94 | n/a – forecast > 72 hrs ahead | LCR |
| 28/10/2021 03:00 - 03:30 | 91906 | 23/10/2021 15:28 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 340 | 332 | n/a – forecast > 72 hrs ahead | LCR2 |
| 28/10/2021 04:00 - 05:30 | 91906 | 23/10/2021 15:28 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 358 | 262 | n/a – forecast > 72 hrs ahead | LCR2 |
| 28/10/2021 05:30 - 07:30 | 91907 | 23/10/2021 15:29 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 183 | 89 | n/a – forecast > 72 hrs ahead | LCR |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 28/10/2021 | 91921 | 24/10/2021 05:52 | LOR2 | Cancelled | This cancelled MN 91907. Forecast LOR2 cancelled due to increased generation availability. | 183 | 223 | n/a – forecast > 72 hrs ahead | LCR |
| 28/10/2021 06:00 - 07:00 | 91923 | 24/10/2021 10:43 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 184 | 159 | n/a – forecast > 72 hrs ahead | LCR |
| 28/10/2021 | 91930 | 24/10/2021 15:42 | LOR2 | Cancelled | This cancelled MN 91923. Forecast LOR2 cancelled due to increased generation availability. | 184 | 186 | n/a – forecast > 72 hrs ahead | LCR |
| 28/10/2021 05:00 - 07:30 | 91931 | 24/10/2021 15:51 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 358 | 186 | n/a – forecast > 72 hrs ahead | LCR2 |
| 28/10/2021 05:30 - 06:00 | 91934 | 25/10/2021 07:15 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 373 | 284 | 373 | FUM |
| 28/10/2021 05:30 - 07:00 | 91935 | 25/10/2021 08:07 | LOR2 | Update | Update to the forecast LOR2 conditions in MN 91934 with a change in effective period and decreased reserves due to decreased generation availability and increased forecast uncertainty. | 399 | 237 | 399 | FUM |
| 28/10/2021 04:30 - 07:30 | 91936 | 25/10/2021 10:00 | LOR2 | Update | Update to the forecast LOR2 conditions in MN 91934 with a change in effective period and decreased reserves due to decreased generation availability and increased forecast uncertainty. | 425 | 235 | 425 | FUM |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 28/10/2021 06:00 - 07:00 | 91937 | 25/10/2021 10:44 | LOR2 | Update | Update to the LOR2 condition forecast in MN 91936 with a change in effective period due to decreased generation availability and increased forecast uncertainty. | 451 | 449 | 451 | FUM |
| 28/10/2021 | 91938 | 25/10/2021 13:50 | LOR2 | Cancelled | This cancelled MN 91937. Forecast LOR2 cancelled due to increased generation availability. | 490 | 503 | 490 | FUM |
| 28/10/2021 | 91943 | 25/10/2021 14:39 | LOR1 | Cancelled | This cancelled MN 91931. Forecast LOR1 cancelled due to increased generation availability. | 490 | 502 | 490 | FUM |
| 03/11/2021 08:30 - 09:00 | 92114 | 2/11/2021 11:46 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 304 | 279 | 304 | FUM |
| 03/11/2021 09:00 - 10:00 | 92116 | 2/11/2021 13:06 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 361 | 283 | 258 | LCR2 |
| 03/11/2021 08:30 - 09:00 | 92115 | 2/11/2021 13:07 | LOR2 | Update | Update to LOR2 conditions forecast in MN 92114 with the same effective period and decreased reserves due to decreased generation availability. | 265 | 197 | 265 | FUM |
| 03/11/2021 | 92124 | 2/11/2021 17:57 | LOR2 | Cancelled | This cancelled MN 92115. Forecast LOR2 conditions cancelled due to increased generation availability. | 198 | 398 | 198 | FUM |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|--|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 03/11/2021 | 92125 | 2/11/2021 18:00 | LOR1 | Cancelled | This cancelled MN 92116. Forecast LOR1 conditions cancelled due to increased generation availability. | 405 | 496 | 207 | LCR2 |
| 17/11/2021 16:30 - 18:00 | 92445 | 16/11/2021 12:55 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation and decreased import availability. | 328 | 229 | 328 | FUM |
| 17/11/2021 | 92449 | 16/11/2021 14:19 | LOR2 | Cancelled | This cancelled MN 92445. Forecast LOR2 conditions cancelled due to increased generation availability. | 318 | 407 | 318 | FUM |
| 23/11/2021 12:30 - 15:00 | 92667 | 22/11/2021 09:24 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 326 | 240 | 326 | FUM |
| 23/11/2021 | 92668 | 22/11/2021 11:02 | LOR2 | Cancelled | This cancelled MN 92667. Forecast LOR2 cancelled due to increased generation availability. | 303 | 419 | 303 | FUM |
| 23/11/2021 12:30 - 14:30 15:30 - 16:00 | 92670 | 22/11/2021 12:59 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 418 | 310 | 295 | LCR2 |
| 23/11/2021 14:30 - 15:00 | 92671 | 22/11/2021 13:00 | LOR2 | Forecast | Forecast LOR2 declared due to decreased generation availability. | 299 | 288 | 299 | FUM |
| 23/11/2021 | 92678 | 22/11/2021 16:33 | LOR2 | Cancelled | Forecast LOR2 condition cancelled due to increased generation availability. | 252 | 441 | 252 | FUM |
| 23/11/2021 | 92679 | 22/11/2021 17:17 | LOR1 | Cancelled | Forecast LOR1 condition cancelled due to increased generation availability. | 399 | 475 | 236 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 30/11/2021 18:00 - 20:00 | 92766 | 26/11/2021 14:51 | LOR1 | Forecast | Forecast LOR1 declared due to increased demand forecast and decreased generation availability. | 449 | 349 | n/a – forecast > 72 hrs ahead | LCR2 |
| 30/11/2021 | 92783 | 27/11/2021 14:29 | LOR1 | Cancelled | This cancelled MN 92766. Forecast LOR1 cancelled due to increased generation availability. | 450 | 530 | n/a – forecast > 72 hrs ahead | LCR2 |
| 30/11/2021 19:00 - 19:30 | 92794 | 28/11/2021 06:28 | LOR2 | Forecast | Forecast LOR2 declared due to increased demand forecast and decreased generation availability. | 445 | 438 | 445 | FUM |
| 30/11/2021 | 92795 | 28/11/2021 08:27 | LOR2 | Cancelled | This cancelled MN 92794. Forecast LOR2 cancelled due to a decrease in the forecast uncertainty. | 393 | 397 | 393 | FUM |
| 30/11/2021 18:30 - 19:30 | 92796 | 28/11/2021 10:32 | LOR2 | Forecast | Forecast LOR2 declared due to increased demand forecast and decreased generation availability. | 393 | 353 | 393 | FUM |
| 30/11/2021 18:00 - 20:00 | 92802 | 28/11/2021 14:25 | LOR2 | Update | Update to the LOR2 conditions forecast in MN 92796 with a change in effective period due to decreased generation availability. | 417 | 343 | 417 | FUM |
| 30/11/2021 | 92813 | 28/11/2021 21:37 | LOR2 | Cancelled | This cancelled MN 92802. Forecast LOR2 conditions cancelled due to increased generation availability and reduced demand forecast. | 375 | 367 | 375 | FUM |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 30/11/2021 18:00 - 20:00 | 92814 | 28/11/2021 21:51 | LOR1 | Forecast | Forecast LOR1 declared due to increased demand forecast and decreased generation availability. | 449 | 369 | 349 | LCR2 |
| 30/11/2021 18:00 - 19:30 | 92816 | 29/11/2021 01:44 | LOR2 | Forecast | Forecast LOR2 declared due to increased demand forecast and decreased generation availability. | 360 | 311 | 360 | FUM |
| 30/11/2021 | 92817 | 29/11/2021 12:50 | LOR2 | Cancelled | This cancelled MN 92816. Forecast LOR2 conditions cancelled due to increased import availability. | 350 | 799 | 289 | LCR |
| 30/11/2021 | 92822 | 29/11/2021 14:15 | LOR1 | Cancelled | This cancelled MN 92814. Forecast LOR1 conditions cancelled due to increased import availability. | 600 | 799 | 289 | LCR2 |
| 12/12/2021 18:30 - 20:30 | 93123 | 11/12/2021 12:53 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 600 | 519 | 290 | LCR2 |
| 12/12/2021 18:30 - 19:30 | 93139 | 11/12/2021 17:22 | LOR1 | Update | Update to the forecast LOR1 conditions in MN 93123 with a change in effective period due to decreased generation availability. | 600 | 585 | 299 | LCR2 |
| 12/12/2021 18:30 - 20:30 | 93147 | 12/12/2021 04:25 | LOR1 | Update | Update to the forecast LOR1 conditions in MN 93139 with a change in effective period due to decreased generation availability. | 585 | 545 | 218 | LCR2 |
| 12/12/2021 19:00 - 19:30 | 93156 | 12/12/2021 13:19 | LOR1 | Update | Update to the forecast LOR1 in MN 93147 with a change in effective period due to decreased generation availability. | 475 | 457 | 207 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-------------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 12/12/2021 | 93169 | 12/12/2021 16:21 | LOR1 | Cancelled | This cancelled MN 93156. Forecast LOR1 cancelled due to increased generation availability. | 554 | 570 | 202 | LCR2 |
| 30/12/2021 17:30 - 20:00 | 93376 | 24/12/2021 14:34 | LOR1 | Forecast | Forecast LOR1 declared due to increased demand forecast and decreased generation availability. | 545 | 409 | n/a – forecast > 72 hrs ahead | LCR2 |
| 30/12/2021 18:00 - 19:30 | 93399 | 25/12/2021 14:36 | LOR1 | Update | Update to LOR1 conditions forecast in MN 93376 with a change in effective period due to decreased generation availability. | 538 | 491 | n/a – forecast > 72 hrs ahead | LCR2 |
| 30/12/2021 | 93429 | 26/12/2021 14:20 | LOR1 | Cancelled | This cancelled MN 93399. Forecast LOR1 cancelled due to increased generation availability. | 538 | 654 | n/a – forecast > 72 hrs ahead | LCR2 |
| Tasmania region | | | | | | | | | |
| 8/10/2021 9:00 - 11:00 | 91525 | 7/10/2021 13:29 | LOR2 | Forecast | Forecast LOR2 declared due to decrease in net import and decreased generation availability. | 177 | 164 | 177 | FUM |
| 8/10/2021 9:00 - 11:00 | 91534 | 7/10/2021 15:54 | LOR2 | Update | General update to MN 91525. There was no significant change in the LOR2 effective period. | 184 | 162 | 184 | FUM |
| 8/10/2021 | 91542 | 7/10/2021 18:32 | LOR2 | Cancelled | This cancelled MN 91534. Forecast LOR2 cancelled due to a decrease in FUM. | 155 | 182 | 155 | FUM |
| 12/10/2021 7:00 - 7:30 | 91627 | 11/10/2021 13:17 | LOR1 | Forecast | Forecast LOR1 declared due to decrease in net import and decreased generation availability. | 240 | 224 | 138 | LCR2 |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|---------------------------|------------------|---------------------|-------|------------------------------------|---|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 12/10/2021 | 91633 | 11/10/2021 14:16 | LOR1 | Cancelled | This cancelled MN 91627. Forecast LOR1 cancelled due to an increase in net import. | 751 | 899 | 136 | LCR2 |
| 8/12/2021 7:00 - 8:00 | 92976 | 6/12/2021 14:42 | LOR1 | Forecast | Forecast LOR1 declared due to network outage which puts multiple generating units on a single largest credible contingency. | 922 | 890 | 165 | LCR2 |
| 8/12/2021 7:00 - 7:30 | 92999 | 7/12/2021 13:50 | LOR1 | Update | General update to MN 92976. There was no significant change in the LOR1 effective period. | 922 | 909 | 138 | LCR2 |
| 8/12/2021 | 93004 | 7/12/2021 17:21 | LOR1 | Cancelled | This cancelled MN 91627. Forecast LOR1 cancelled due to an increase in generation availability. | 922 | 1017 | 130 | LCR2 |
| 14/12/2021 7:00 - 8:30 | 93180 | 13/12/2021 17:13 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 637 | 615 | 137 | LCR2 |
| 14/12/2021 | 93181 | 13/12/2021 19:13 | LOR1 | Cancelled | This cancelled MN 93180. Forecast LOR1 cancelled due to an increase in generation availability. | 637 | 680 | 130 | LCR2 |
| 15/12/2021 6:30 - 7:30 | 93185 | 14/12/2021 13:29 | LOR1 | Forecast | Forecast LOR1 declared due to decreased generation availability. | 649 | 640 | 139 | LCR |
| 15/12/2021 | 93188 | 14/12/2021 16:08 | LOR1 | Cancelled | This cancelled MN 93188. Forecast LOR1 cancelled due to an increase in generation availability. | 649 | 696 | 133 | LCR2 |
| Victoria region | | | | | | | | | |

Lack of Reserve conditions declared

| Effective date and time | Market Notice ID | Issue date and time | Level | Actual, forecast, update or cancel | Comments | Reserve requirement (MW) ^A | | FUM value (MW) ^B | Reserve requirement set by |
|-----------------------------|------------------|---------------------|-------|------------------------------------|--|---------------------------------------|-----------|-----------------------------|----------------------------|
| | | | | | | Required | Available | | |
| 30/11/2021 17:00 - 19:30 | 92833 | 30/11/2021 16:15 | LOR1 | Forecast | Forecast LOR1 declared due to a decrease in import availability. | 1,160 | 973 | 387 | LCR2 |
| 30/11/2021 18:00 - 18:30 | 92836 | 30/11/2021 16:49 | LOR1 | Update | Update to MN 92833 with a change in effective period due to an increase in generation availability. | 1,160 | 1,136 | 352 | LCR2 |
| 30/11/2021 18:00 - 19:00 | 92837 | 30/11/2021 17:07 | LOR1 | Update | The forecast LOR1 conditions in MN 92833 and 92836 have been declared suspect by AEMO and are being investigated. | 1,160 | 1,127 | 352 | LCR2 |
| 30/11/2021 | 92838 | 30/11/2021 17:45 | LOR1 | Cancelled | This cancelled MN 92833 and 92836. The suspect forecast LOR1 condition was cancelled due to fixing an issue with the VIC_NIL_1 constraint set which was reducing the VIC-NSW import limit. | 1,160 | 1,170 | 293 | LCR2 |

A. Reserve Required and Reserve Available are the values that correspond to the trading interval in the effective period with the lowest reserve available.

B. The value in this field represents the FUM value for the trading interval during which the minimum available reserve occurred (see Reserve Requirement (MW) – Available field).

4 Review of performance

4.1 Forecast Uncertainty Measure values

This section compares the mean, minimum, and maximum FUM values for this reporting period to those for each quarter from Quarter 4 2020 to Quarter 4 2021 (Figure 1 to Figure 5). Maximum FUM values can at times change significantly between re-trainings, in part due to limited sample sizes. Mean FUM values decreasing is indicative of the distribution tightening with decreasing forecast uncertainty.

The most material changes in FUM values between Quarter 3 2021 and Quarter 4 2021 are summarised in this section. For forecast horizons not mentioned, the changes from Quarter 3 2021 were minor:

- New South Wales – the mean FUM values decreased for the 48 and 60 hours ahead forecast horizons. The minimum FUM values decreased for the 12 and 60 hours ahead forecast horizons. The maximum FUM values increased for 2, 6, 12 and 24 hours ahead forecast horizons and decreased for the 48 and 60 hours ahead forecast horizons.
- Queensland – the maximum FUM values decreased for the 12 hours ahead forecast horizons and increased for the 24, 48 and 60 hours ahead forecast horizons. The mean and minimum FUM values were relatively unchanged.
- South Australia – the maximum FUM values decreased for the 12 hours ahead forecast horizons and increased for the 48 and 60 hours ahead forecast horizons. The mean and minimum FUM values were relatively unchanged.
- Tasmania – the minimum FUM value increased for the six hours ahead forecast horizon. The mean and maximum FUM values decreased for all forecast horizons.
 - In October 2021, a configuration change was made to improve the input feed for the Aggregate Semi-Scheduled (SS) Output forecasts used in the BBN models of all NEM regions. Prior to this change, this input used the aggregate SS UIGF for the region, and was changed to use the aggregate SS capacity produced by the PASA engine, in line with the Reserve Level Declaration Guidelines.
 - This change lowered the Aggregate SS Output used in the BBN relative to the previously used UIGF, due to the constraints and optimisation used in PASA.
 - Holding other inputs constant, the FUM will increase with increasing forecast SS generation due to the inherent uncertainty in the weather that fuels them. The lower SS forecasts following the October 2021 change therefore had the impact of lowering the Tasmania FUM output during Q4 2021.
 - Mainland NEM regions did not experience a notable reduction in FUM values in Q4 2021. This is likely attributed to more installed capacity of SS generation in Q4 2021 compared to Tasmania offsetting the reduction in Aggregate Semi-Scheduled Output forecasts.
- Victoria – the maximum FUM values increased for the 12 and 24 hours ahead forecast horizon and decreased for the 2 and 60 hours ahead forecast horizon. The mean and minimum FUM values were relatively unchanged.



Figure 1 New South Wales region: maximum, minimum, and mean FUM values for the reporting period, and compared to previous four quarters

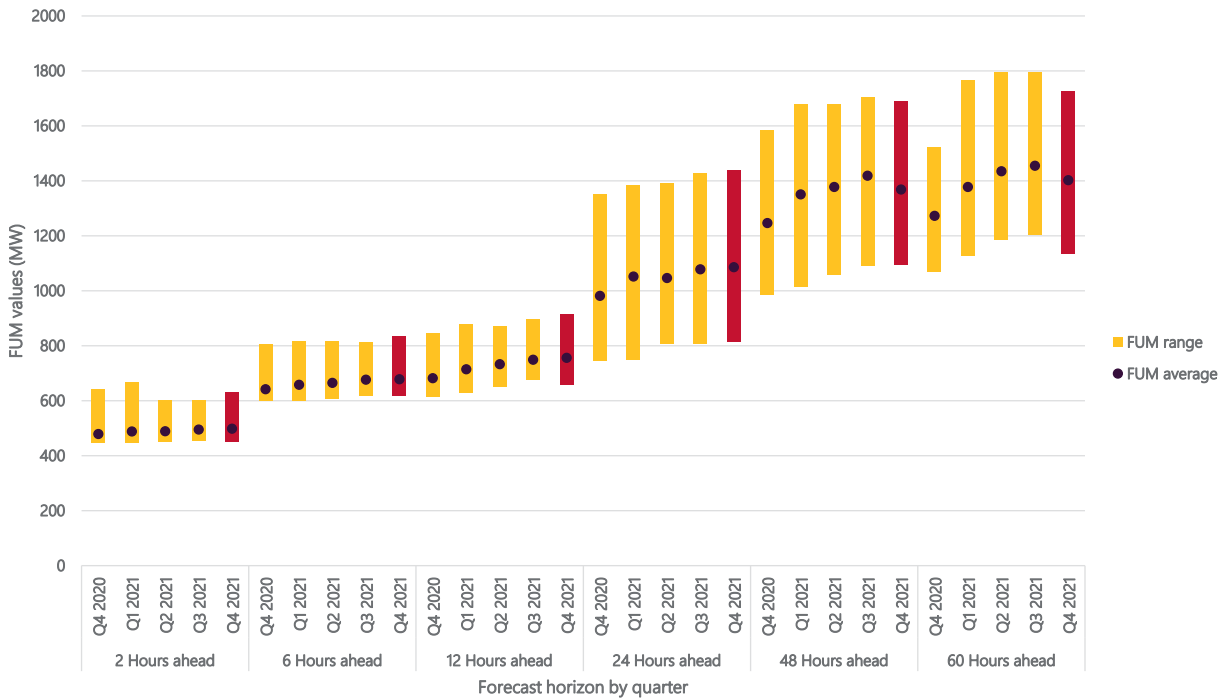


Figure 2 Queensland region: maximum, minimum, and mean FUM values for the reporting period, and compared to previous four quarters

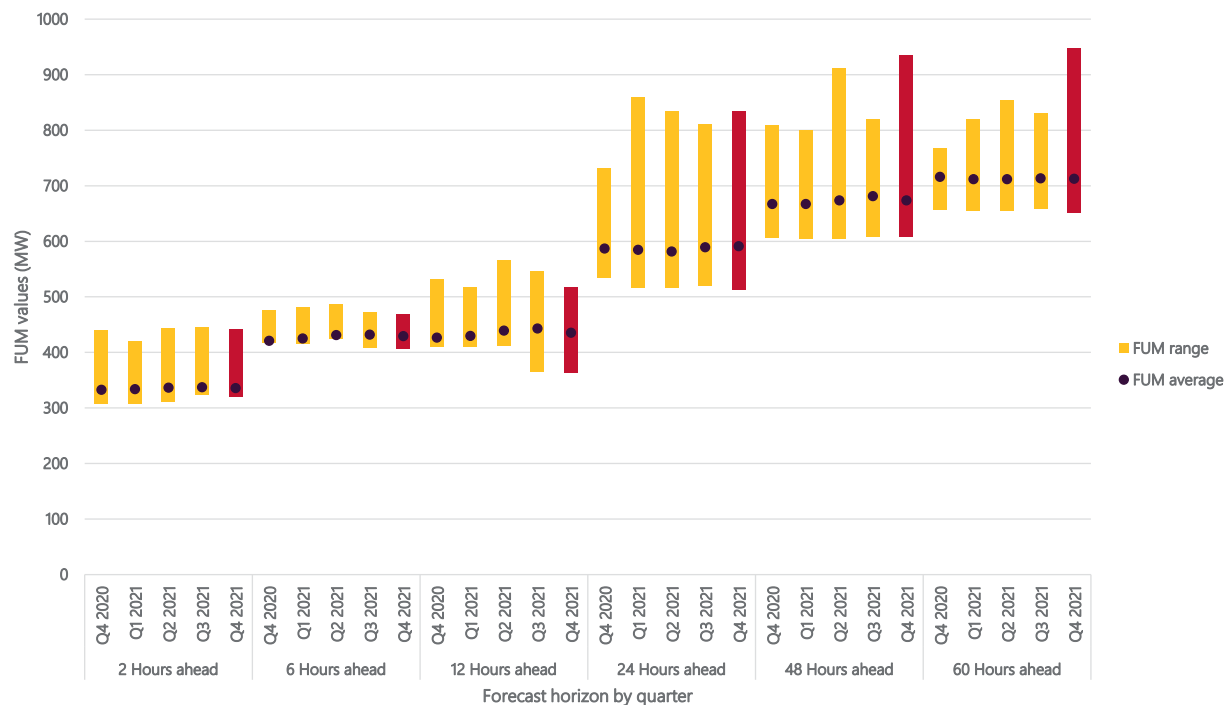




Figure 3 South Australia region: maximum, minimum, and mean FUM values for the reporting period, and compared to previous four quarters

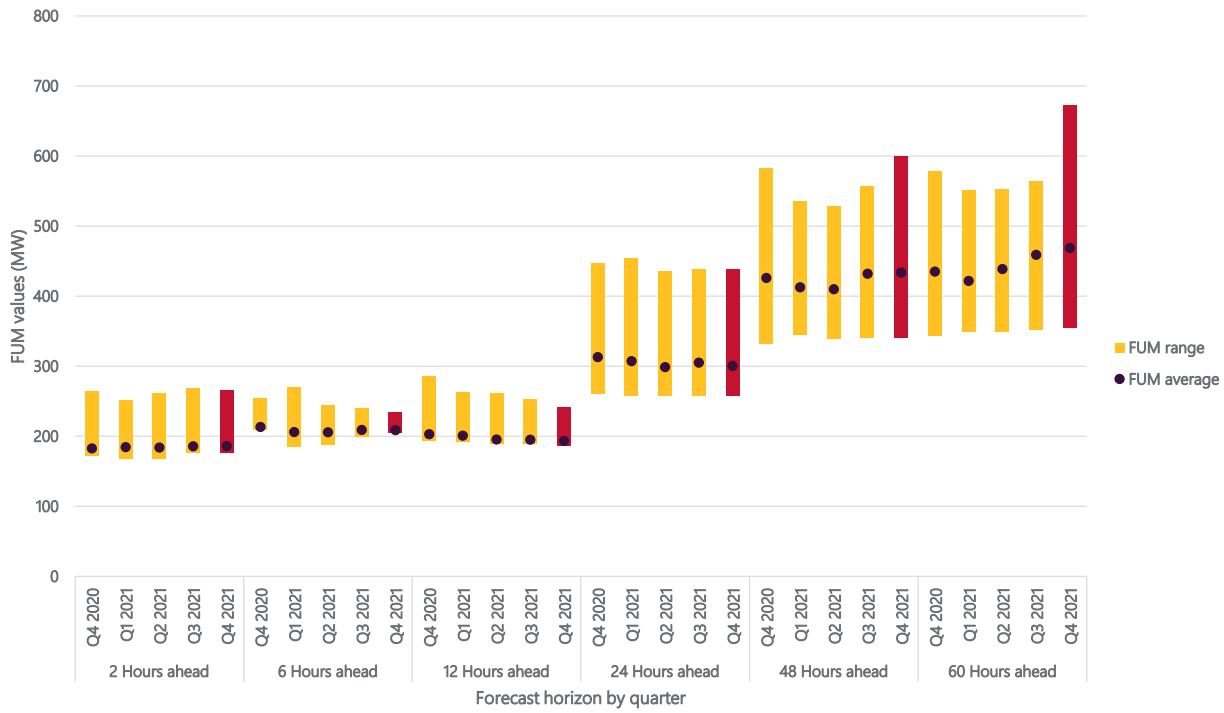


Figure 4 Tasmania region: maximum, minimum, and mean FUM values for the reporting period, and compared to previous four quarters

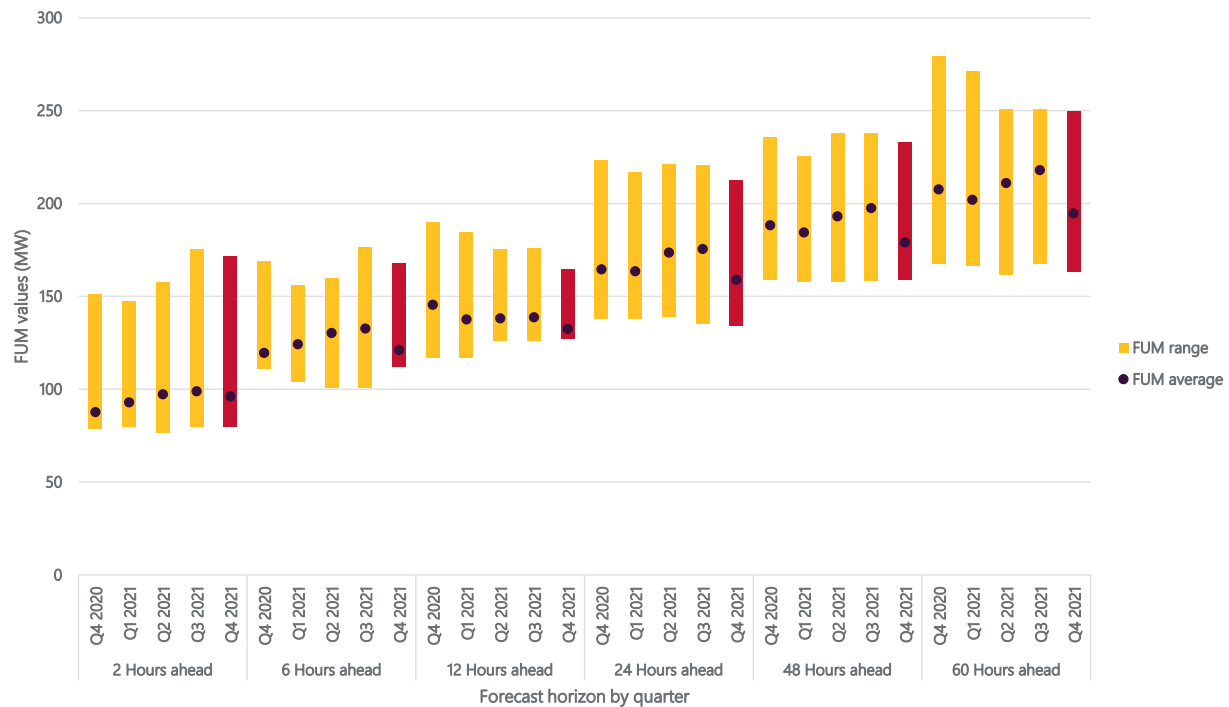
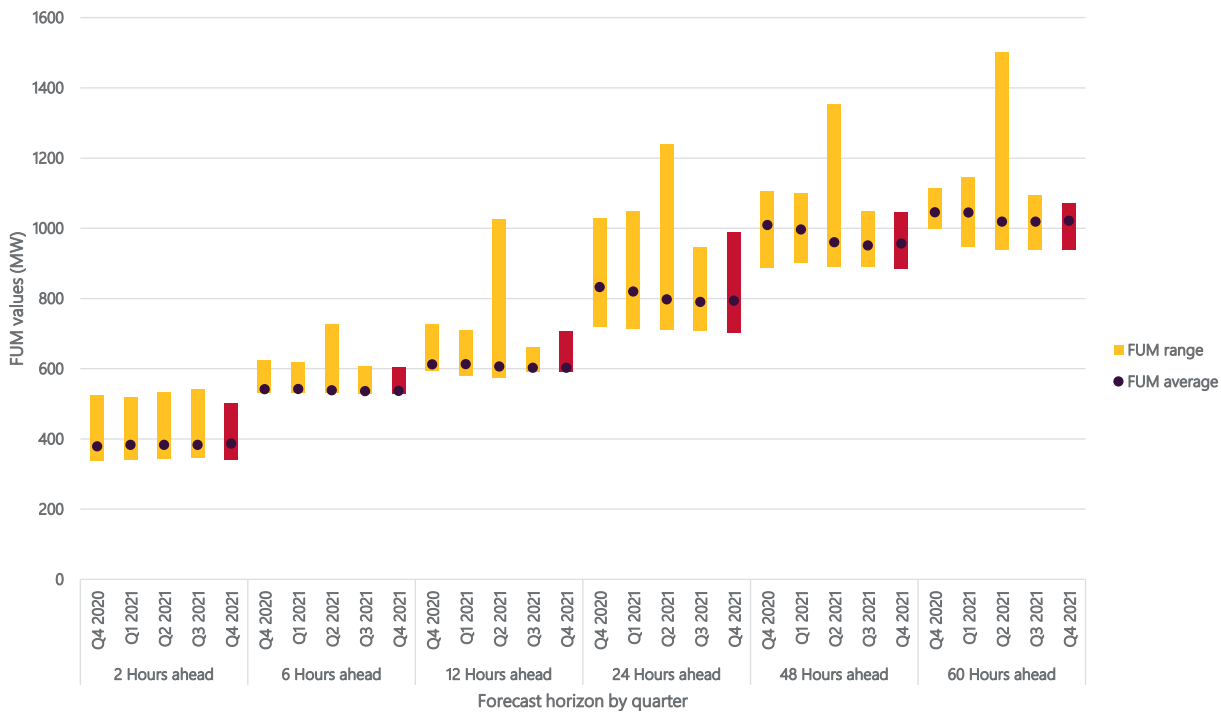


Figure 5 Victoria region: maximum, minimum, and mean FUM values for the reporting period, and compared to previous four quarters



4.2 Forecast and actual LOR declarations

A summary of the count and causes of declared forecast and actual LOR conditions can be found in Table 1 in Section 3 of this report.

During the reporting period from 1 October to 31 December 2021, there were 55 LOR declarations. Of these declarations, 47 were for forecast LOR conditions:

- 29 forecast LOR1 conditions were declared.
- 18 forecast LOR2 conditions were declared.
- None of the forecast LOR1 conditions was set by the FUM.
- Nine forecast LOR2 conditions were set by the FUM.

A total of seven actual LOR1 conditions were declared during the reporting period. All were observed as forecast LOR1 prior to being declared as an actual, therefore not counted as a forecast declaration based on the declaration count principles outlined in Section 3.

There was one actual LOR2 condition declared during the reporting period. This was observed as a forecast LOR2 condition prior to being declared as an actual.

By comparison, 69 LOR declarations were made in Quarter 3 2021 (49 forecast LOR events and 20 actual LOR events) and 39 LOR declarations were made in Quarter 4 2020 (25 forecast LOR events and 14 actual events).

There were nine LOR declarations in the reporting period set by the FUM, so the percentage of LOR conditions where the FUM set the reserve requirement was 16%. In Quarter 3 2021 the percentage was 20%, while in Quarter 4 2020 it was 18%.

There were no forecast LOR3 conditions during the current reporting period.

Table 3 LORs declared during the reporting period by trigger (FUM or LCR)

| Effective period | LOR1 | LOR2 | LOR3 |
|------------------------------|----------------------|----------------------|------|
| New South Wales (NSW) | | | |
| 11/11/2021 | Forecast | | |
| 21/12/2021 | Forecast | | |
| Queensland (QLD) | | | |
| 11/10/2021 | Forecast | | |
| 14/10/2021 | Forecast then Actual | | |
| 24/10/2021 | Forecast | Forecast | |
| 25/10/2021 | Forecast | | |
| 26/10/2021 | Forecast then Actual | | |
| 28/10/2021 | Forecast then Actual | Forecast then Actual | |
| 30/10/2021 | Forecast then Actual | | |
| 08/11/2021 | Forecast then Actual | Forecast | |
| 09/11/2021 | Forecast | | |
| 11/11/2021 | Forecast | | |
| 12/11/2021 | Forecast | Forecast | |
| 22/11/2021 | Forecast | Forecast | |
| 23/11/2021 | Forecast | Forecast | |
| 09/12/2021 | Forecast then Actual | Forecast | |
| 11/12/2021 | Forecast | | |
| 12/12/2021 | Forecast | | |
| 15/12/2021 | Forecast | | |
| 16/12/2021 | Forecast | Forecast | |
| 20/12/2021 | Forecast then Actual | Forecast | |
| 21/12/2021 | Forecast | | |
| 22/12/2021 | Forecast | Forecast | |
| South Australia (SA) | | | |
| 11/10/2021 | Forecast | Forecast | |
| 12/10/2021 | Forecast | Forecast | |
| 27/10/2021 | Forecast | Forecast | |
| 28/10/2021 | Forecast | Forecast | |
| 03/11/2021 | Forecast | Forecast | |
| 17/11/2021 | | Forecast | |
| 23/11/2021 | Forecast | Forecast | |
| 30/11/2021 | Forecast | Forecast | |
| 12/12/2021 | Forecast | | |
| 30/12/2021 | Forecast | | |
| Tasmania (TAS) | | | |
| 08/10/2021 | | Forecast | |

| Effective period | LOR1 | LOR2 | LOR3 |
|-----------------------|----------|------|------|
| 12/10/2021 | Forecast | | |
| 08/12/2021 | Forecast | | |
| 14/12/2021 | Forecast | | |
| 15/12/2021 | Forecast | | |
| Victoria (VIC) | | | |
| NIL | | | |

Note. Yellow shading indicates the requirement was set by the LCR or LCR2, and orange indicates the requirement was set by the FUM.

4.3 LOR declaration of reserve requirement

Of the 36 forecast LOR1 conditions declared, seven resulted in actual LOR1 conditions. These were counted as actual LOR1 conditions based on the declaration count principles outlined in Section 3.

Of the 19 forecast LOR2 conditions declared, one resulted in an actual LOR2 condition. It was counted as actual LOR2 condition based on the declaration count principles outlined in Section 3.

There were 29 forecast LOR1 conditions that did not develop into actual LOR1 conditions, and 18 forecast LOR2 conditions that did not develop into actual LOR2 conditions. The reasons were either a market response following the issue of the forecast market notice, or changes to the net import or changes in forecast demand. The market response generally took the form of increased available generation and transmission network service providers (TNSPs) rescheduling planned transmission outages.

4.4 Number and cause of LOR declarations

As summarised in Table 1, a total of 55 LOR conditions were declared during the current reporting period: 47 forecast and eight actual LOR conditions.

This is slightly lower than the 69 LOR declarations recorded in the previous reporting period (1 July 2021 to 30 September 2021) but higher than 39 LOR conditions declared for the same period last year (Quarter 4 2020). Quarter 4 2021 covered the later spring months and first month of summer. Weather conditions warmed through this period peaking in December.

As Table 3 shows, there were no instances where actual LOR conditions occurred with no prior forecast; all of the actual LOR conditions had some degree of anticipation and lead time for the market and TNSPs to respond.

Many of the forecast LOR conditions did not eventuate into actual LOR conditions mainly due to market response in the form of increased generation availability and decreased forecast demand.

- The LOR conditions in New South Wales and Queensland were driven by reduced net import, high demand forecast and decreased generation availability.
- The LOR conditions in South Australia were mainly due to decreased generation availability and reduced net import.
- The LOR conditions in Tasmania were due to reduced net import (Basslink unavailable), network outages (multiple generating units on single contingency) and decreased generation availability.
- The only LOR declaration in Victoria was due to an error in constraint formulation which was corrected shortly after it was declared.

Glossary

This document uses many terms that have meanings defined in the NER. The NER meanings are adopted unless otherwise specified.

For each of the terms below, refer to the Reserve Level Declaration Guidelines⁵ for further information.

| Term | Definition |
|-------------------|---|
| BBN | Bayesian Belief Network ⁶ |
| FUM | Forecast Uncertainty Measure (the number of MW representing the level of forecasting uncertainty) |
| Guidelines | The Reserve Level Declaration Guidelines published by AEMO under clause 4.8.4A of the NER |
| LCR | Largest Credible Risk – the single largest credible risk in the region |
| LCR2 | Largest Credible Risk 2 – the sum of the two largest credible risks in the region |
| LOR1 | Lack of Reserve level 1. The threshold for an LOR1 is determined by the larger value of either the FUM or the sum of the two largest credible risks in the region (LCR2). |
| LOR2 | Lack of Reserve level 2. The threshold for an LOR2 is determined by the larger value of either the FUM or the largest credible risk in the region (LCR). |
| LOR3 | Lack of Reserve level 3. The threshold for an LOR3 condition is when the forecast reserve for a region is at or below zero. |
| PASA | Projected Assessment of System Adequacy ⁷ |
| TNSP | Transmission network service provider |

⁵ See AEMO's reserve level declaration guidelines, at https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/power_system_ops/reserve-level-declaration-guidelines.pdf.

⁶ More detail regarding Bayesian Belief Networks is available in the Appendix of AEMO's reserve level declaration guidelines document in the link above.

⁷ See AEMO's Projected Assessment of System Adequacy (PASA) principles, at <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-reliability/projected-assessment-of-system-adequacy>.