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# NEM Lack of Reserve Framework Report 1 April 2021 to 30 June 2021

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**July 2021**

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 1 April 2021 to 30 June 2021.

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## VERSION CONTROL

Version	Release date	Changes
1	30 July 2021	Initial version

# 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 April 2021 to 30 June 2021 (Quarter 2 2021), AEMO declared 73 Lack of Reserve (LOR) conditions in the National Electricity Market (NEM)<sup>1</sup>:

- There were 24 forecast LOR1 conditions.
- There were 18 forecast LOR2 conditions.
- There were 28 actual LOR1 conditions.
- There were two actual LOR2 conditions.
- There was one forecast LOR3 condition.

This compares with seven LOR conditions declared in the previous reporting period (Quarter 1 2021), and one LOR condition declared for the same period last year (Quarter 2 2020)<sup>2</sup>. This reporting period had the highest recorded number of LOR declarations compared to all previous quarters since commencement of quarterly reporting from Q1 2018.

Quarter 2 2021 covered the later autumn months and first month of winter. The LOR declarations in this quarter are mainly due to short notice outages and unplanned power system events, including the events of 25 May 2021 in the Queensland region, involving sudden loss of generation availability and multiple unplanned transmission outages. Although automatic under frequency load shedding (UFLS) occurred in response to these events, LOR declarations do not cover the disconnection of interruptible load<sup>3</sup>.

Some of the actual LOR conditions were unanticipated, occurring with no prior forecast following power system incidents and unplanned network or forced generator outages.

Of the 73 LOR declarations in Quarter 2 2021:

- For 51 declarations, the reserve requirement was set by the sum of the two Largest Credible Risks (LCR2, for LOR1 thresholds). There were three declarations where the reserve requirement was set by the Largest Credible Risk (LCR, for LOR2 thresholds). There were 17 declarations where the reserve requirement was set by the Forecast Uncertainty Measurement (FUM).
- This means 23% of LOR conditions were declared when the reserve requirement was being set by the FUM. For comparison, in Quarter 1 2021, none of the seven LOR declarations was set by FUM (0%), and in Quarter 2 2020, there was only one forecast LOR1 condition, which was not set by the FUM.
- There was one forecast LOR3 declaration (in Queensland on 25 May 2021) which was mainly due to decreased generation availability and increased forecast demand after permission was given to restore all load shed via UFLS. Actual load restoration proceeded below expected levels and a number of subsequent adjustments were made to the demand forecast, causing multiple revisions to declared LOR conditions.

The next report on the NEM Lack of Reserve Framework, for the reporting period 1 July 2021 to 30 September 2021, will be published by 31 October 2021.

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<sup>1</sup> Forecast or actual LOR1, LOR2, or LOR3. LOR is described in clause 4.8.4 of the 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>.

<sup>2</sup> In Quarter 1 2021, the declared LOR conditions were two forecast LOR1 conditions, three actual LOR1 conditions and two actual LOR2 conditions; in Quarter 2 2020 the declared LOR condition was one forecast LOR1 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>.

<sup>3</sup> 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](https://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Power_System_Ops/Reserve-Level-Declaration-Guidelines.pdf).

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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 April 2021 to 30 June 2021 (Quarter 2 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](http://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 1 July 2021 to 30 September 2021, will be published by 31 October 2021.

# 2. Reserve Level Declaration Guidelines

## 2.1 Changes in the reporting period

During the reporting period, there were no changes to the Guidelines<sup>4</sup>.

## 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 July 2021 to include data up to 30 June 2021. The retraining involves a three-stage process:

1. Extract-Transform-Load (ETL) stage, to extract historical data up to 30 June 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 July 2021, 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 April 2020 to March 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 decreased by 83 megawatts (MW) for the 12 hour ahead forecast horizon. Mean FUM values decreased by 11 MW for the 24 hours ahead forecast horizon. Minimum FUM values were relatively unchanged.
- Queensland – maximum FUM values decreased by 54 MW, 110 MW and 195 MW for the 6 hours ahead, 12 hours ahead, and 24 hours ahead forecast horizons respectively. Maximum FUM values increased by 24 MW for the 60 hours ahead forecast horizon. Minimum FUM values decreased by 64 MW for the 12 hours ahead forecast horizon. Mean FUM values were relatively unchanged.
- South Australia – maximum FUM values decreased for the 12 and 60 hours ahead forecast horizons, by 26 MW and 211 MW respectively. As noted above, material changes in maximum FUM values can occur due to limited sample sizes at the edges of the distribution. Mean FUM values increased by 13 MW for the 60 hours ahead forecast horizon. Minimum FUM values were relatively unchanged.

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<sup>4</sup> The Guidelines are at <http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Power-system-operation>.

- Tasmania – maximum FUM values increased by 12 MW for both the 12 hours ahead and 60 hours ahead forecast horizons. Minimum FUM values decreased by 10 MW for the 60 hours ahead forecast horizon. Mean FUM values were relatively unchanged.
- Victoria – maximum FUM values decreased by 217 MW and 72 MW for the 12 and 60 hours ahead forecast horizon. Mean and minimum FUM values were relatively unchanged.

# 3. Lack of Reserve conditions declared

Table 1 provides a high-level summary of the count 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 1 April 2021 to 30 June 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. But 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 <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
19/04/2021	NSW	1						<p>A forecast LOR1 condition was declared with an effective period of 18:00 - 18:30 (1 hour lead time<sup>5</sup>) due to decreased generation availability.</p> <p>An actual LOR1 was later declared due to decreased generation availability. Actual conditions existed from 18:00 - 18:30.</p>
26/04/2021	NSW	1						<p>An actual LOR1 was declared due to decreased generation availability. There was no prior forecast LOR1 declaration issued for this effective period. Actual conditions existed from 18:00 - 19:00.</p>
03/05/2021	NSW	1						<p>An actual LOR1 was declared due to decreased generation availability. There was no prior forecast LOR1 declaration issued for this effective period. Actual conditions existed from 17:00 - 19:00.</p>
04/05/2021	NSW		1					<p>A forecast LOR1 condition was declared with an effective period of 07:30 - 08:30 (14 hour lead time) due to decreased generation availability.</p> <p>An update was issued with an extended effective period of 07:30 - 10:30 (3 hour lead time) due to a further decrease in generation availability and reduced net import.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability and increased net import.</p>
17/05/2021	NSW		1		1			<p>A forecast LOR2 condition was declared with an effective period of 17:30 - 18:30 (28 hour lead time) due to decreased generation availability and reduced net import.</p> <p>A forecast LOR1 condition was later declared with an effective period of 18:30 - 19:00 (29 hour lead time) due to decreased generation availability and reduced net import.</p> <p>The forecast LOR2 condition was cancelled due to increased generation availability.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:00 - 19:30 (15 hour lead time) due to a further decrease in generation availability.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability.</p>
18/05/2021	NSW		1		1			<p>A forecast LOR1 condition was declared with an effective period of 17:30 - 18:30 (51 hour lead time) due to decreased generation availability.</p>

<sup>5</sup> 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.

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
								<p>A forecast LOR2 condition was later declared with an effective period of 17:30 - 19:00 (34 hour lead time) due to decreased generation availability and reduced net import.</p> <p>An update to the forecast LOR1 condition was issued with similar effective period of 18:30 - 19:00 (29 hour lead time) due to decreased generation availability and reduced net import.</p> <p>The forecast LOR2 was cancelled due to increased generation availability.</p> <p>The forecast LOR1 conditions were cancelled due to increased net import.</p>
19/05/2021	NSW	2	1					<p>A forecast LOR1 condition was declared with an effective period of 17:30 - 18:00 (75 hour lead time) due to decreased generation availability.</p> <p>An actual LOR1 was later declared due to decreased generation availability and reduced net import. There was no prior forecast LOR1 declaration issued for this effective period. Actual conditions existed from 07:30 - 08:00.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:00-18:00 (3 hour lead time) due to decreased generation availability and reduced net import.</p> <p>The forecast LOR1 condition was cancelled due to increased net import.</p> <p>An actual LOR1 was later declared due to decreased generation availability. There was no prior forecast LOR1 declaration issued for this effective period. Actual conditions existed from 18:30-19:00.</p>
20/05/2021	NSW	1	1					<p>A forecast LOR1 condition was declared with an effective period of 07:00 - 08:30 (15 hour lead time) due to decreased generation availability and reduced net import.</p> <p>Another forecast LOR1 condition was declared with an effective period of 17:30 - 19:30 (25 hour lead time) due to decreased generation availability.</p> <p>An actual LOR1 was later declared due to an increase in demand. Actual conditions existed from 07:00 - 08:30.</p> <p>The forecast LOR1 condition was cancelled due to increased generation availability and net import.</p>
21/05/2021	NSW	1						<p>A forecast LOR1 condition was declared with an effective period of 16:30 - 17:00 (4 hour lead time) due to decreased generation availability.</p> <p>Another forecast LOR1 condition was declared with an effective period of 17:30 - 18:00 (3 hour lead time) due to decreased generation availability and reduced net import.</p>

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
								<p>An actual LOR1 was later declared for the effective period 16:30 - 17:00 due to a slight increase in demand and decreased generation availability and was cancelled when the effective period elapsed.</p> <p>An update to the forecast LOR1 condition was issued with an extended effective period of 17:30 - 18:30 (48 minute lead time) due to an increase in the forecast demand and decreased generation availability.</p> <p>An actual LOR1 was later declared due to reduced net import. Actual conditions existed from 16:30 - 18:30.</p>
25/05/2021	NSW	1			1			<p>A forecast LOR1 condition was declared with an effective period of 17:30 - 19:30 (2 hour lead time) due to a sudden decrease in net import.<sup>6</sup></p> <p>A forecast LOR2 condition was later declared with an effective period of 17:30 - 18:30 (2 hour lead time) due to reduced net import and a slight increase in the forecast demand.</p> <p>The forecast LOR2 condition was cancelled due to a decrease in the forecast demand.</p> <p>An actual LOR1 was later declared due to reduced net import. Actual conditions existed from 18:00 - 20:00.</p>
29/05/2021	NSW	2	1					<p>A forecast LOR1 was initially declared for the evening peak with an effective time 16:30 - 17:00 (1 hour lead time). This reserve condition was mainly due to decreased generation availability and sudden increase in forecast demand.</p> <p>Forecast LOR1 declared effective time now 17:30 - 18:00 (1 hour lead time) due to sudden decrease in generation availability and increases in forecast demand over the period leading up to real-time.</p> <p>The forecast LOR1 was cancelled mainly due to an increase in net import.</p> <p>LOR1 was redeclared with an effective time 17:30 - 18:30 (7 minute lead time) due to decreased generation availability and a further increase in forecast demand.</p> <p>Actual LOR1 conditions existed from 17:30-18:00. The available reserve level materially decreased in this trading interval due to a decrease in generation availability and gradual increase in demand causing an actual LOR1 condition.</p>

<sup>6</sup> See AEMO's 25 May 2021 preliminary operating incident report, at [https://www.aemo.com.au/-/media/files/electricity/nem/market\\_notices\\_and\\_events/power\\_system\\_incident\\_reports/2021/preliminary-report--trip-of-multiple-generators-and-lines-in-queensland-and-associated-underfrequenc.pdf](https://www.aemo.com.au/-/media/files/electricity/nem/market_notices_and_events/power_system_incident_reports/2021/preliminary-report--trip-of-multiple-generators-and-lines-in-queensland-and-associated-underfrequenc.pdf).

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
								<p>Following these events, another separate forecast LOR1 was declared effective time 21:00 - 22:00 (2 hour lead time) due to sudden decrease in generation availability and decrease in net import.</p> <p>Actual LOR1 conditions existed from 21:00 - 21:30.</p>
30/05/2021	NSW	1			1			<p>A forecast LOR2 was initially declared for the evening peak with an effective time 16:30 - 17:00 (1 day lead time). This reserve condition was mainly due to significant decrease in generation availability.</p> <p>The forecast LOR2 condition was downgraded to LOR1 condition with an effective period 16:30 - 17:00 (1 day lead time) due to a decreased required reserve level set by the FUM.</p> <p>The forecast LOR1 was cancelled mainly due to an increase in net import.</p> <p>An actual LOR1 was later declared. Actual conditions existed from 17:00 - 17:30. The available reserve level materially decreased in this trading interval due to a decrease in net import causing an actual LOR1 condition.</p>
31/05/2021	NSW	1	1		2			<p><b>Morning Peak Demand:</b></p> <p>A forecast LOR2 was declared for the morning peak with an effective time 07:30 - 08:00 (2 day lead time). This reserve condition was mainly due to significant decrease in generation availability and increase in FUM.</p> <p>LOR2 period was later downgraded to LOR1 with an effective period of 07:30 - 08:00 as FUM decreased (2 day lead time). LOR1 period was later upgraded to LOR2 with an effective period of 07:00 - 08:30 (21 hour lead time) due to decreased generation availability and increase in FUM.</p> <p>The forecast LOR2 condition expanded and worsened with an effective period 07:00 - 08:30 (18 hour lead time) due to a decrease in net import and slight increase in forecast demand. The forecast LOR2 was cleared due to increased net import.</p> <p><b>Evening Peak Demand:</b></p> <p>A forecast LOR1 condition was declared with an effective period of 17:30-18:30 (7 day lead time) due to an increase in the forecast demand.</p> <p>The LOR1 forecast was later upgraded to LOR2 with an effective period of 18:00 - 18:30 (3 day lead time) due to decreased generation availability and increase in FUM. The forecast LOR2 condition expanded with an effective time 17:30 - 19:00 (3 day lead time) as FUM increased.</p> <p>The forecast LOR2 condition expanded in duration and severity with an effective time 17:00 - 20:30 (2 day lead time), due to significant decrease in generation availability and slight increase in FUM.</p>

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
								<p>Forecast LOR1 declared with an effective period of 20:30 - 21:00 (2 day lead time) due to decreased generation availability. The forecast LOR2 was cancelled mainly due to increased generation availability and increased net import.</p> <p>Forecast LOR2 was redeclared with an effective time 17:30 - 19:00 (1 day lead time) due to decreased generation availability, increase in forecast demand and increase in FUM.</p> <p>LOR2 period was later downgraded to LOR1 with an effective period of 17:30 - 19:30 as FUM decreased (1 day lead time).</p> <p>Actual LOR1 conditions existed from 17:30 - 19:30.</p>
1/06/2021	NSW	2			1			<p><b>Morning Peak Demand:</b></p> <p>A forecast LOR2 was initially declared for the morning peak with an effective time 07:30 - 08:00 (3 day lead time). This reserve condition was mainly due to significant decrease in generation availability and increase in FUM.</p> <p>The forecast LOR2 condition was downgraded to LOR1 condition with an effective period 07:00 - 08:00 shortly later due to a decreased required reserve level set by the FUM.</p> <p>LOR2 was redeclared with an effective time 07:30 - 08:00 (1.7 day lead time) due to decreased generation availability, decreased net import and increase in FUM.</p> <p>The forecast LOR2 condition was downgraded to LOR1 condition with an effective period 07:00 - 08:00 due to increased net import and decrease in FUM.</p> <p>The LOR1 and LOR2 condition toggled between each other multiple times for the same period due to fluctuating required reserve level set by the FUM.</p> <p>Actual LOR1 conditions existed from 07:30 - 08:30.</p> <p><b>Evening Peak Demand:</b></p> <p>A forecast LOR1 was initially declared for the evening peak with an effective time 17:30 - 19:30 (3 day lead time). This reserve condition was mainly due to decreased generation availability.</p> <p>An update was issued for an improved LOR1 condition forecast with an effective period of 18:00 - 18:30 (9 hour lead time), due to an increase in net import.</p> <p>An update was issued for a worsened LOR1 condition forecast with an effective period of 17:30 - 19:00 (6 hour lead time), due to a decrease in net import, decreased generation availability and increase in forecast demand.</p> <p>An update was issued for an improved LOR1 condition with an effective period of 18:00 - 18:30 (4 hour lead time), due to an increase in net import.</p>

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
								Actual LOR1 conditions existed from 17:30 - 19:30.
3/06/2021	NSW	3		1	1			<p>LOR1 forecasts were issued for the evening peak (5 days lead time) and morning peak (4 days lead time).</p> <p>A forecast LOR2 was declared with an effective period of 07:30 - 08:30 (3 day lead time) due to an increase in the FUM value and decreased generation availability. The forecast LOR2 was cancelled due to a decrease in the FUM value and decrease in the forecast demand.</p> <p>4 separate actual LORs were declared due to decreased generation availability, with actual LOR1 conditions from 07:30 - 08:30, LOR1 from 9:00 - 12:00, LOR1 from 16:30 - 19:00, and LOR2 from 17:30 - 19:00.</p>
10/06/2021	NSW	1			1			<p>A forecast LOR1 was declared (3 day lead time) due to a decrease in generation availability</p> <p>A further decrease in generation caused the LOR1 forecast to worsen to a forecast LOR2, which was cancelled due to decreased generation availability.</p> <p>An actual LOR1 was declared due to decreased generation availability. Actual LOR1 conditions existed from 16:00 - 19:00.</p>
15/06/2021	NSW		1					A forecast LOR1 was declared (3 hour lead time) due to a decrease in generation availability. The forecast LOR1 was cancelled as more generation became available.
16/06/2021	NSW	2			1			<p>A forecast LOR2 was declared due to decreased generation availability. The LOR2 was subsequently cancelled, reissued and cancelled again.</p> <p>A forecast LOR1 was declared (43 minute lead time), which worsened into an actual LOR1 with an effective period from 07:30 - 08:00.</p> <p>An actual LOR1 was declared for the evening peak which had not previously been forecast, with actual LOR1 conditions from 17:00 - 17:30.</p>
18/06/2021	NSW		1		1			<p>A forecast LOR1 was declared (4 days lead time) due to a decrease in import capacity and generation availability. The LOR1 worsened to LOR2 which was later cancelled.</p> <p>An LOR2 for the same period was issued again and cancelled the same day.</p>
21/06/2021	NSW		2					Forecast LOR1 notices were issued (7 days lead time) for both morning and evening peak periods due to decreased generation availability and decreased net import. Updates to the effective period were issued. Both LOR1 notices were later cancelled.

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
22/06/2021	NSW	1	1		1			<p>A forecast LOR1 was declared (7 days lead time) for the morning peak and a mix of LOR1 and LOR2 conditions for the evening peak.</p> <p>An actual LOR1 was declared due to decreased generation availability. Actual LOR1 conditions existed from 17:30 - 18:30.</p>
23/06/2021	NSW	1			1			<p>A forecast LOR1 was initially declared for the morning peak with an effective period 07:30 - 08:00 (2 day lead time). This reserve condition was mainly due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled due increased generation availability.</p> <p>An actual LOR1 was declared due to decreased generation availability. Actual LOR1 conditions existed from 17:00 - 17:30.</p>
28/06/2021	NSW		1		2			<p>Forecast LOR2s were declared (2.4 days lead time) for both morning and evening peak due to decreased generation availability.</p> <p>The evening peak was downgraded to LOR1 in a subsequent notice and both LORs were cancelled prior to the effective period.</p>
29/06/2021	NSW	1						<p>An actual LOR1 was declared due to decreased net import with actual LOR1 conditions from 17:30 to 18:00 hrs. There was no prior forecast for this effective period.</p> <p>The actual LOR1 was later cancelled as additional generation became available.</p>
25/05/2021	QLD		1	1			1	<p>Forecast LOR1 and LOR2 were declared with an effective time 15:30 - 21:30 (1 minute lead time, 2 hour lead time respectively) on the effective date due to sudden reduction in generation availability and reduced net import.</p> <p>A forecast LOR3 was declared with an effective time 17:00 - 21:00 (no lead time) due to sudden reduction in generation availability and changes in forecast demand<sup>7</sup>.</p> <p>An actual LOR2 was declared. Actual LOR2 conditions existed from 16:30 – 21:30. The condition was cancelled when the effective period elapsed.</p> <p>The forecast LOR3 condition subsequently improved due to increased generation availability and decreased forecast demand.</p>

<sup>7</sup> See AEMO's 25 May 2021 preliminary operating incident report, at [https://www.aemo.com.au/-/media/files/electricity/nem/market\\_notices\\_and\\_events/power\\_system\\_incident\\_reports/2021/preliminary-report--trip-of-multiple-generators-and-lines-in-queensland-and-associated-underfrequenc.pdf](https://www.aemo.com.au/-/media/files/electricity/nem/market_notices_and_events/power_system_incident_reports/2021/preliminary-report--trip-of-multiple-generators-and-lines-in-queensland-and-associated-underfrequenc.pdf). A further detailed report will be released by the end of the year.

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
26/05/2021	QLD	1			1			<p>Forecast LOR1 and LOR2 were declared (21 hour lead time and 22 hour lead time respectively) on the effective date leading up to actual LOR1 conditions. Initial forecast and actual LOR1 were later cancelled due to increased generation availability.</p> <p>The forecast LOR1, LOR2 and actual LOR1 was for an effective period 17:30 – 20:00. The reserve conditions were mainly due to reduction in generation availability.</p>
28/05/2021	QLD		1					<p>A forecast LOR1 was declared with an effective period 17:30 - 20:00 (1 day lead time). The reserve condition was mainly due decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p> <p>A forecast LOR1 was later redeclared with similar effective period (10 hours lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p>
31/05/2021	QLD		1		1			<p>Forecast LOR1 and LOR2 were declared (2.1 days lead time respectively) on the effective date. Initial forecasts were later cancelled due to increased generation availability.</p> <p>The forecast reserve shortfall was for an effective period 17:30 - 19:00. LOR2 was forecast from 18:00 – 18:30 with LOR1 forecast on either side of this within the effective shortfall interval. The reserve conditions were mainly due to a reduction in generation availability and an increase in demand.</p>
03/06/2021	QLD		1					<p>A forecast LOR1 was declared with an effective period 17:00 - 21:00 (2 hour lead time). The reserve condition was mainly due to an increase in demand.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p>
10/06/2021	QLD	1			1			<p>A forecast LOR1 was declared with an effective period 19:30 - 20:00 (5 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 - 20:30 (3 day lead time) due to decreased generation availability.</p> <p>The forecast LOR1 worsened into a forecast LOR2 with an effective period 17:30 - 20:30 (3 day lead time) due to decreased generation availability.</p> <p>The forecast LOR1 and LOR2 were cancelled due to increased generation availability.</p>

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
								<p>Another forecast LOR1 was declared with an effective period 17:30 - 18:00 (no lead time) due to an increase in demand.</p> <p>An actual LOR1 was declared due to reduced net import. The actual conditions existed from 18:00 - 18:30.</p>
11/06/2021	QLD		1					<p>A forecast LOR1 was declared with an effective period 20:00 - 20:30 (3.2 days lead time). The reserve condition was mainly due to a decrease in generation availability.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p>
14/06/2021	QLD	1						<p>Forecast LOR1 was declared (23 hours lead time) on the effective date leading up to actual LOR1 conditions.</p> <p>Initial forecast and actual LOR1 was later cancelled due to increased generation availability. The forecast LOR1 was for an effective period 17:00 - 20:30. The reserve conditions were mainly due to reduction in generation availability.</p>
15/06/2021	QLD		2					<p>A forecast LOR1 was declared with an effective period 07:00 - 07:30 (4 days lead time). The reserve condition was mainly due decreased net import.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased net import.</p> <p>A forecast LOR1 was later redeclared with an effective period 17:30 - 20:00 (3 hour lead time) due to decreased generation availability and increase in demand.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p>
16/04/2021	SA		1					<p>A forecast LOR1 was declared with an effective period 07:00 - 07:30 (6 day lead time). The reserve condition was mainly due decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p> <p>A forecast LOR1 was later redeclared with similar effective period (4 day lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p>
29/04/2021	SA		1					<p>A forecast LOR1 condition was declared with an effective period of 07:00 - 08:00 (5 day lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p>

Effective date <sup>A</sup>	Region	LOR1		LOR2		LOR3		Cause and resolution
		Actual	Forecast	Actual	Forecast	Actual	Forecast	
01/06/2021	SA		1					<p>A forecast LOR1 condition was declared with an effective period of 18:00 - 19:00 (7 day lead time) due to decreased generation availability.</p> <p>The forecast LOR1 condition was cancelled mainly due to increased generation availability.</p>
21/04/2021	VIC	2						<p>An actual LOR1 was declared. No forecast LOR1 was observed prior to this event. Significant forecast demand increased quickly leading up to real-time.</p> <p>Actual conditions existed 07:30 - 08:00.</p> <p>An actual LOR1 was declared. No forecast LOR1 was observed prior to this event. The available reserve level materially decreased in this trading interval due to decreased net import.</p> <p>Actual conditions existed from 18:00 - 18:30.</p>
12/05/2021	VIC		1					<p>A forecast LOR1 was declared with an effective period 17:30 - 19:30 (12 hour lead time). This reserve condition was mainly due to sudden decreased generation availability.</p> <p>The forecast LOR1 was cancelled mainly due to an increase in net import.</p>
<b>Total</b>		<b>28</b>	<b>24</b>	<b>2</b>	<b>18</b>	<b>0</b>	<b>1</b>	

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 1 April to 30 June 2021**

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
<b>New South Wales region</b>									
19/04/2021 18:00 - 18:30	84448	19/04/2021 16:56	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1,436	1,391	439	LCR2
19/04/2021 18:00 - 18:30	84461	19/04/2021 18:13	LOR1	Actual	Actual LOR1 declared. Decrease in generation availability caused an actual LOR1 condition.	1,400	1,249	213	LCR2
19/04/2021	84472	19/04/2021 18:59	LOR1	Cancelled	This cancelled MN 84461. Actual LOR1 cancelled as condition cleared after effective period.	1,432	1,626	213	LCR2
26/04/2021 18:00 - 19:00	84795	26/04/2021 18:14	LOR1	Actual	Actual LOR1 declared. Decrease in generation availability caused an actual LOR1 condition.	1,511	1,461	213	LCR2
26/04/2021	84796	26/04/2021 18:43	LOR1	Cancelled	This cancelled MN 84795. Actual LOR1 cancelled as condition cleared after effective period.	1,512	1,828	213	LCR2
03/05/2021 17:00 - 19:00	85066	3/05/2021 17:17	LOR1	Actual	Actual LOR1 declared. Decrease in generation availability caused an actual LOR1 condition.	1,439	936	328	LCR2
04/05/2021 07:30 - 08:30	85067	3/05/2021 17:26	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1,430	1,341	851	LCR2
03/05/2021	85069	3/05/2021 18:09	LOR1	Cancelled	This cancelled MN 85066. Actual LOR1 cancelled due to increased generation availability and condition cleared after effective period.	1,446	2,138	213	LCR2
04/05/2021 07:30 - 10:30	85081	4/05/2021 4:06	LOR1	Update	Update to MN 85067 due to change in effective period. The effective period extended and forecast LOR1 condition worsened due to a further decrease in generation availability and reduced net import.	1,430	1,187	577	LCR2
04/05/2021	85082	4/05/2021 5:51	LOR1	Cancelled	This cancelled MN 85081. Forecast LOR1 cancelled due to increased generation availability and increased net import.	1,430	2,476	506	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
17/05/2021 17:30 - 18:30	85524	16/05/2021 12:55	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and reduced net import.	1,204	1,165	1,204	FUM
17/05/2021 18:30 - 19:00	85525	16/05/2021 12:59	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and reduced net import.	1,430	1,324	1,213	LCR2
17/05/2021	85526	16/05/2021 13:22	LOR2	Cancelled	This cancelled MN 85524. Forecast LOR2 cancelled due to increased generation availability.	1,137	1,388	1,137	FUM
18/05/2021 17:30 - 18:30	85528	16/05/2021 14:21	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1,430	1,362	1,274	LCR2
19/05/2021 17:30 - 18:00	85528	16/05/2021 14:21	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1,430	1,182	n/a – forecast > 72 hrs ahead	LCR2
17/05/2021 17:00 - 19:30	85537	17/05/2021 2:05	LOR1	Update	Update to MN 85525 due to change in effective period. The effective period extended and forecast LOR1 condition worsened due to a further decrease in generation availability.	1,430	981	749	LCR2
18/05/2021 17:30 - 19:00	85538	17/05/2021 7:20	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and reduced net import.	1,259	1,147	1,264	FUM
18/05/2021 17:30 - 19:00	85556	17/05/2021 12:53	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and reduced net import.	1,206	1,082	1,206	FUM
18/05/2021 18:30 - 19:00	85558	17/05/2021 12:54	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and reduced net import.	1,430	1,195	1,175	LCR2
18/05/2021	85588	17/05/2021 14:14	LOR2	Cancelled	This cancelled MN 85556. Forecast LOR2 cancelled due to increased generation availability.	1,092	1,100	1,092	FUM
19/05/2021	85589	17/05/2021 16:18	LOR1	Cancelled	This cancelled MN 85528. Forecast LOR1 cancelled due to increased generation availability.	1,430	1,805	1,297	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
18/05/2021 17:30 - 18:30	85590	17/05/2021 16:50	LOR1	Update	Update to MN 85558 due to the change of the forecast reserve level. The Forecast LOR1 condition improved due to the increased generation availability.	1,430	1,341	921	LCR2
17/05/2021 17:30 - 19:00	85591	17/05/2021 16:55	LOR1	Update	Update to MN 85537 due to the change in effective period. The effective period shortened and forecast LOR1 condition improved due to increased generation availability.	1,430	1,227	415	LCR2
17/05/2021	85605	17/05/2021 18:16	LOR1	Cancelled	This cancelled MN 85591. Forecast LOR1 cancelled due to increased generation availability.	1,430	1,683	213	LCR2
18/05/2021	85672	18/05/2021 17:46	LOR1	Cancelled	This cancelled MN 85590. Forecast LOR1 cancelled due to increased net import.	1,430	1,736	328	LCR2
19/05/2021 17:30 - 18:00	85673	18/05/2021 18:13	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1,430	1,388	914	LCR2
19/05/2021 07:30 - 08:00	85675	19/05/2021 8:05	LOR1	Actual	Actual LOR1 declared. Decrease in generation availability and reduced net import caused an actual LOR1 condition.	1,365	1,331	220	LCR2
19/05/2021	85676	19/05/2021 8:20	LOR1	Cancelled	This cancelled MN 85675. Actual LOR1 cancelled due to increased generation availability and net import, and condition cleared after effective period.	1,365	1,828	220	LCR2
19/05/2021 17:30 - 18:00	85677	19/05/2021 13:29	LOR1	Update	Update to MN 85673 due to change in the forecast reserve level. The forecast LOR1 condition worsened due to decreased generation availability and increased forecast demand.	1,430	1,127	650	LCR2
19/05/2021 17:00 - 18:00	85678	19/05/2021 13:51	LOR1	Update	Update to MN 85677 due to change in the effective period. The effective period extended and the forecast LOR1 condition worsened due to decreased generation availability and reduced net import.	1,430	914	630	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
21/05/2021 07:00 – 09:00	85679	19/05/2021 14:14	LOR3	Suspect	Forecast LOR3 declared due to decreased generation availability.	0	-526	1,438	0
21/05/2021 15:30 – 19:30	85679	19/05/2021 14:14	LOR3	Suspect	Forecast LOR3 declared due to decreased generation availability.	0	-824	1,350	0
21/05/2021 07:00 – 09:00, 15:30 – 19:30	85680	19/05/2021 14:33	LOR3	Update	AEMO considers this forecast LOR3 condition invalid due to input errors.	NA	NA	NA	NA
20/05/2021 07:00 – 08:30	85683	19/05/2021 15:47	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and reduced net import.	1,430	980	893	LCR2
20/05/2021 17:30 – 19:30	85684	19/05/2021 16:15	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1,430	1,273	909	LCR2
19/05/2021	85685	19/05/2021 17:48	LOR1	Cancelled	This cancelled MN 85678. Forecast LOR1 condition cancelled due to increased net import.	1,430	1,512	213	LCR2
19/05/2021 18:30 – 19:00	85686	19/05/2021 18:39	LOR1	Actual	Actual LOR1 declared. Decrease in generation availability caused an actual LOR1 condition.	1,482	1,112	213	LCR2
19/05/2021	85687	19/05/2021 19:46	LOR1	Cancelled	This cancelled MN 85686. Actual LOR1 condition cancelled due to increased net import and condition cleared after the effective period.	1,513	1,628	213	LCR2
20/05/2021 07:00 – 08:30	85688	20/05/2021 7:14	LOR1	Actual	Actual LOR1 declared. An increase in demand caused an actual LOR1 condition.	1,430	975	406	LCR2
20/05/2021	85689	20/05/2021 8:17	LOR1	Cancelled	This cancelled MN 85688. Actual LOR1 condition cancelled as condition cleared after effective period.	1,430	1,460	264	LCR2
20/05/2021	85728	20/05/2021 17:41	LOR1	Cancelled	This cancelled MN 85684. Forecast LOR1 condition cancelled due to increased generation availability and net import.	1,400	1,530	328	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
21/05/2021 16:30 - 17:00	85760	21/05/2021 12:51	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1,400	1,381	630	LCR2
21/05/2021 16:30 - 17:00	85761	21/05/2021 14:19	LOR1	Update	Update to MN 85760 due to change in the forecast reserve level. The forecast LOR1 condition worsened due to decreased generation availability, reduced net import and an increase in the forecast demand.	1,400	1,170	528	LCR2
21/05/2021 17:30 - 18:00	85761	21/05/2021 14:19	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and reduced net import.	1,400	1,312	581	LCR2
21/05/2021 16:30 - 17:00	85763	21/05/2021 16:40	LOR1	Actual	Actual LOR1 declared. A slight increase in demand and decreased generation availability caused an actual LOR1 condition.	1,400	1,081	213	LCR2
21/05/2021 17:30 - 18:30	85764	21/05/2021 16:41	LOR1	Update	Update to MN 85761 due to change in the effective period and the forecast reserve level. Forecast LOR1 condition worsened due to an increase in the forecast demand and decreased generation availability.	1,400	1,180	374	LCR2
21/05/2021	85767	21/05/2021 17:04	LOR1	Cancelled	This cancelled MN 85763. Actual LOR1 cancelled as condition cleared after the effective period.	1,400	1,530	213	LCR2
21/05/2021 17:00 - 18:30	85768	21/05/2021 17:11	LOR1	Actual	Actual LOR1 declared. Reduced net import caused an actual LOR1 condition.	1,400	817	213	LCR2
21/05/2021	85769	21/05/2021 18:38	LOR1	Cancelled	This cancelled MN 85764. The forecast LOR1 condition cancelled due to a decrease in the forecast demand.	1,400	1,592	213	LCR2
21/05/2021	85771	21/05/2021 18:39	LOR1	Cancelled	This cancelled MN 85768. Actual LOR1 cancelled as condition cleared after the effective period.	1,400	1,592	213	LCR2
31/05/2021 17:30 - 18:30	85881	24/05/2021 14:43	LOR1	Forecast	Forecast LOR1 declared due to an increase in the forecast demand.	1,515	1,435	n/a – forecast > 72 hrs ahead	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
31/05/2021	85939	25/05/2021 15:04	LOR1	Cancelled	This cancelled MN 85881. The forecast LOR1 condition cancelled due to increased generation availability.	1,511	1,848	n/a – forecast > 72 hrs ahead	LCR2
25/05/2021 17:30 - 19:30	85949	25/05/2021 15:12	LOR1	Forecast	Forecast LOR1 declared due to reduced net import.	1,430	965	556	LCR2
25/05/2021 17:30 - 18:30	85965	25/05/2021 15:48	LOR2	Forecast	Forecast LOR2 declared due to reduced net import and slight increase in the forecast demand.	730	705	506	LCR
25/05/2021	86006	25/05/2021 17:21	LOR2	Cancelled	This cancelled MN 85965. The forecast LOR2 condition cancelled due to a decrease in the forecast demand.	730	879	344	LCR
25/05/2021 18:00 - 20:00	86028	25/05/2021 18:13	LOR1	Actual	Actual LOR1 declared. Reduced net import caused an actual LOR1 condition.	1,400	759	213	LCR2
25/05/2021	86033	25/05/2021 18:41	LOR1	Cancelled	This cancelled MN 86028. Actual LOR1 condition cancelled due to increased net import and the condition cleared after the effective period.	1,400	1,708	213	LCR2
25/05/2021	86035	25/05/2021 18:49	LOR1	Cancelled	This cancelled MN 85949. The forecast LOR1 condition cancelled due to an increase in the net import and increased generation availability.	1,400	1,708	213	LCR2
31/05/2021 18:00 - 18:30	86188	28/05/2021 20:35	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1202	1181	1202	FUM
31/05/2021 17:30 - 19:00	86193	28/05/2021 22:35	LOR2	Update	Update to MN 86188 due to change in effective period. LOR2 period expanded as FUM increased (FUM was setting the LOR2 trigger level).	1243	1103	1243	FUM
31/05/2021 7:30 - 8:00	86218	29/05/2021 13:00	LOR2	Forecast	Forecast LOR2 declared due to significant decrease in generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1500	1319	1500	FUM

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
31/05/2021 17:00 - 20:30	86218	29/05/2021 13:00	LOR2	Update	Update to MN 86193 due to change in effective period. LOR2 period expanded and worsen due to significant decrease in generation availability and slight increase in FUM.	1382	538	1382	FUM
01/06/2021 07:30 - 08:00	86218	29/05/2021 13:00	LOR2	Forecast	Forecast LOR2 declared due to significant decrease in generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1392	1376	1392	FUM
30/05/2021 16:30 - 17:00	86219	29/05/2021 13:01	LOR2	Forecast	Forecast LOR2 declared due to significant decrease in generation availability.	1208	1000	1208	FUM
29/05/2021 16:30 - 17:00	86222	29/05/2021 15:00	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and sudden increase in forecast demand.	1430	1265	494	LCR2
31/05/2021 17:00 - 20:30	86220	29/05/2021 15:08	LOR2	Update	Update to MN 86218. This MN was not required to be issued as no significant change in the LOR2 effective period.	1274	607	1274	FUM
31/05/2021 07:30 - 08:00	86221	29/05/2021 15:09	LOR1	Update	Update to MN 86218 due to change in effective period. LOR2 period downgraded to LOR1 as FUM decreased (FUM was setting the LOR2 trigger level).	1506	1354	1348	LCR2
31/05/2021 20:30 - 21:00	86221	29/05/2021 15:09	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1539	1422	1255	LCR2
01/06/2021 07:00 - 08:00	86221	29/05/2021 15:09	LOR1	Update	Update to MN 86218 due to change in effective period. LOR2 period downgraded to LOR1 as FUM decreased (FUM was setting the LOR2 trigger level).	1541	1371	1369	LCR2
01/06/2021 17:30 - 19:30	86221	29/05/2021 15:09	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1538	1074	n/a – forecast > 72 hrs ahead	LCR2
03/06/2021 17:00 - 20:30	86221	29/05/2021 15:09	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	795	n/a – forecast > 72 hrs ahead	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
04/06/2021 17:30 - 19:00	86221	29/05/2021 15:09	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1168	n/a – forecast > 72 hrs ahead	LCR2
29/05/2021 17:30 - 18:00	86225	29/05/2021 16:23	LOR1	Forecast	Forecast LOR1 declared due to sudden decrease in generation availability and gradual increase in forecast demand.	1442	1397	434	LCR2
30/05/2021	86232	29/05/2021 16:40	LOR2	Cancelled	This cancelled MN 85351. Forecast LOR1 cancelled due to a decrease in FUM.	905	1072	905	FUM
30/05/2021 16:30 - 17:00	86233	29/05/2021 16:41	LOR1	Update	Update to MN 86219 due to change in effective period. LOR2 period downgraded to LOR1 as FUM decreased (FUM was setting the LOR2 trigger level).	1430	1072	905	LCR2
29/05/2021	86240	29/05/2021 16:44	LOR1	Cancelled	This cancelled MN 86225. Forecast LOR1 cancelled due to an increase in net import.	1440	1521	360	LCR2
31/05/2021 17:00 - 20:30	86241	29/05/2021 17:20	LOR2	Update	Update to MN 86220. This MN was not required to be issued as no significant change in the LOR2 effective period.	1224	595	1224	FUM
01/06/2021 07:30 - 08:00	86241	29/05/2021 17:20	LOR2	Update	Update to MN 86221 due to change in effective period. LOR1 period upgraded to LOR2 as FUM increased (FUM was setting the LOR2 trigger level).	1344	1331	1344	FUM
29/05/2021 17:30 - 18:30	86242	29/05/2021 17:23	LOR1	Update	Update to MN 86240. Forecast LOR1 declared due to decreased generation availability and further gradual increase in forecast demand.	1449	1298	328	LCR2
29/05/2021 17:30 - 18:00	86243	29/05/2021 17:41	LOR1	Actual	Actual LOR1 declared. Significant generation availability decreased quickly and further gradual increase in forecast demand causing an actual LOR1 condition.	1445	1231	213	LCR2
29/05/2021	86244	29/05/2021 18:38	LOR1	Cancelled	This cancelled MN 86243. Actual LOR1 was cancelled when the effective period elapsed.	1452	1597	213	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
29/05/2021	86245	29/05/2021 18:39	LOR1	Cancelled	This cancelled MN 86242. LOR1 condition cleared after effective period elapsed.	1452	1597	213	LCR2
29/05/2021 21:00 - 22:00	86258	29/05/2021 19:23	LOR1	Forecast	Forecast LOR1 declared due to sudden decrease in generation availability and decreased net import.	1445	1119	473	LCR2
29/05/2021 21:00 - 21:30	86259	29/05/2021 21:09	LOR1	Actual	Actual LOR1 declared. Significant generation availability decreased quickly and decrease in net import causing an actual LOR1 condition.	1469	1415	213	LCR2
29/05/2021	86260	29/05/2021 21:38	LOR1	Cancelled	This cancelled MN 86259. Actual LOR1 was cancelled when the effective period elapsed.	1445	1673	213	LCR2
29/05/2021	86261	29/05/2021 21:41	LOR1	Cancelled	This cancelled MN 86258. LOR1 condition cleared after effective period elapsed.	1445	1673	213	LCR2
31/05/2021	86264	29/05/2021 22:31	LOR2	Cancelled	This cancelled MN 86241. Forecast LOR2 cancelled due to increased generation availability and increased net import.	1108	1480	1108	FUM
30/05/2021 16:30 - 17:00	86265	29/05/2021 22:41	LOR1	Update	Update to MN 86233. This MN was not required to be issued as no significant change in the LOR1 effective period.	1430	1135	796	LCR2
1/06/2021 7:30 - 8:00	86266	30/05/2021 8:38	LOR2	Update	Update to MN 86241. This MN was not required to be issued as no significant change in the LOR2 effective period.	1424	1409	1424	FUM
31/05/2021 07:30 - 08:00	86267	30/05/2021 10:45	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1265	1002	1265	FUM
31/05/2021 17:30 - 19:00	86267	30/05/2021 10:45	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability, increase in forecast demand and increase in FUM (FUM was setting the LOR2 trigger level).	1365	1102	1365	FUM

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
01/06/2021 07:00 - 08:30	86267	30/05/2021 10:45	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1576	1360	1576	FUM
31/05/2021 07:00 - 08:30	86268	30/05/2021 13:04	LOR2	Update	Update to MN 86267. Reserve conditions further worsened due to a decrease in net import and slight increase in forecast demand.	1075	761	1075	FUM
31/05/2021 17:30 - 19:30	86268	30/05/2021 13:04	LOR2	Update	Update to MN 86267. Reserve conditions further worsened due to a decrease in net import and slight increase in forecast demand.	1206	827	1206	FUM
31/05/2021 17:00 - 17:30, 19:30 - 20:00	86269	30/05/2021 13:05	LOR1	Forecast	Forecast LOR1 declared due to a decrease in net import and slight increase in forecast demand.	1430	1293	1430	FUM
31/05/2021 17:30 - 19:00	86270	30/05/2021 13:47	LOR2	Update	Update to MN 86268 due to change in effective period. LOR2 condition improved due to an increase in net import.	1130	883	1130	FUM
01/06/2021 07:00 - 07:30, 08:00 - 08:30	86271	30/05/2021 14:42	LOR1	Forecast	Update to MN 86267. LOR2 period downgraded to LOR1 as FUM decreased (FUM was setting the LOR2 trigger level).	1525	1471	1335	LCR2
03/06/2021 08:00 - 08:30	86271	30/05/2021 14:42	LOR1	Forecast	Forecast LOR1 declared due to an increase in forecast demand.	1430	1415	n/a – forecast > 72 hrs ahead	LCR2
01/06/2021 07:30 - 08:00	86272	30/05/2021 14:43	LOR2	Forecast	Update to MN 86267. Reserve conditions remain relatively the same, LOR2 trigger decreased due to a decrease in FUM. (FUM was setting the LOR2 trigger level).	1348	1339	1348	FUM
1/06/2021	86273	30/05/2021 15:50	LOR2	Cancelled	This cancelled MN 86272. Forecast LOR2 cancelled due to a decrease in FUM.	1272	1336	1272	FUM
30/05/2021	86274	30/05/2021 15:51	LOR1	Cancelled	This cancelled MN 86265. Forecast LOR1 cancelled due to a sudden increase in net import.	1430	1662	402	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
31/05/2021	86275	30/05/2021 16:47	LOR2	Cancelled	This cancelled MN 86270. Forecast LOR2 cancelled due to a decrease in FUM (FUM was setting the LOR2 trigger level) and decrease in forecast demand.	902	1043	902	FUM
31/05/2021 17:30 - 19:30	86276	30/05/2021 16:48	LOR1	Update	Update to MN 86269. LOR2 condition effective period downgraded to LOR1 as FUM decreased (FUM was setting the LOR2 trigger level).	1446	1043	902	LCR2
30/05/2021 17:00 - 17:30	86278	30/05/2021 17:16	LOR1	Actual	Actual LOR1 declared. Significant net import decreased quickly causing an actual LOR1 condition.	1400	1167	213	LCR2
30/05/2021	86296	30/05/2021 18:13	LOR1	Cancelled	This cancelled MN 86278. Actual LOR1 was cancelled when the effective period elapsed.	1774	1418	213	LCR2
01/06/2021 07:30 - 08:00	86343	31/05/2021 13:14	LOR2	Forecast	Forecast LOR2 declared due to decrease in net import.	1039	973	1039	FUM
1/06/2021 7:00 - 7:30, 8:00 - 8:30	86344	31/05/2021 13:16	LOR1	Forecast	Forecast LOR1 declared due to decrease in net import.	1435	1067	1049	LCR2
3/06/2021 7:30 - 8:30	86346	31/05/2021 14:04	LOR2	Forecast	Update to MN 86271 due to change in effective period. LOR1 period upgraded to LOR2 as FUM increased (FUM was setting the LOR2 trigger level) and a decrease in generation availability.	1430	1395	1430	FUM
1/06/2021	86347	31/05/2021 16:13	LOR2	Cancelled	This cancelled MN 86343. Forecast LOR2 cancelled due to increased net import and decrease in FUM (FUM was setting the LOR2 trigger level).	902	956	902	FUM
1/06/2021 7:00 - 8:30	86349	31/05/2021 16:19	LOR1	Update	Update to MN 86344. LOR2 condition effective period downgraded to LOR1 due to increased net import and decrease in FUM (FUM was setting the LOR2 trigger level).	1447	956	902	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
3/06/2021	86351	31/05/2021 17:25	LOR2	Cancelled	This cancelled MN 86346. Forecast LOR2 cancelled due to a decrease in FUM (FUM was setting the LOR2 trigger level) and decrease in forecast demand and	1382	1748	1382	FUM
31/05/2021 17:30 - 19:30	86354	31/05/2021 17:38	LOR1	Actual	Actual LOR1 declared as forecasted in MN 86276.	1444	1069	213	LCR2
31/05/2021	86357	31/05/2021 19:10	LOR1	Cancelled	This cancelled MN 86354. Actual LOR1 was cancelled when the effective period elapsed.	1436	1589	213	LCR2
01/06/2021 07:00 - 08:30	86370	1/06/2021 4:08	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1179	558	LCR2
01/06/2021 17:30 - 19:00	86370	1/06/2021 4:08	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability, decrease in net import and increase in forecast demand.	1430	1300	707	LCR2
01/06/2021 07:00 - 08:30	86371	1/06/2021 7:10	LOR1	Update	Update to MN 86370. This MN was not required to be issued as no significant change in the LOR2 effective period.	1430	1206	362	LCR2
01/06/2021 07:30 - 08:30	86372	1/06/2021 7:38	LOR1	Actual	Actual LOR1 declared as forecast in MN 86371.	1484	1318	220	LCR2
1/06/2021	86373	1/06/2021 9:06	LOR1	Cancelled	This cancelled MN 86372. Actual LOR1 was cancelled when the effective period elapsed.	1499	1516	240	LCR2
1/06/2021 18:00 - 18:30	86374	1/06/2021 9:15	LOR1	Update	Update to MN 86371 due to change in effective period. LOR1 condition improved due to an increase in net import.	1528	1486	776	LCR2
1/06/2021 17:30 - 19:00	86377	1/06/2021 11:20	LOR1	Update	Update to MN 86374 due to change in effective period. LOR1 condition worsened due to a decrease in net import, decreased generation availability and increase in forecast demand.	1468	1294	719	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
1/06/2021 18:00 - 18:30	86379	1/06/2021 14:15	LOR1	Update	Update to MN 86377 due to change in effective period. LOR1 condition improved due to an increase in net import.	1440	1438	578.9	LCR2
1/06/2021	86381	1/06/2021 14:45	LOR1	Cancelled	This cancelled MN 86379. Forecast LOR1 cancelled due to an increase in net import.	1445	1467	537	LCR2
3/06/2021	86380	1/06/2021 14:58	LOR1	Cancelled	This cancelled MN 86271. Forecast LOR1 cancelled due to an increase generation availability.	1430	1624	1247	LCR2
1/06/2021 17:30 - 18:30	86382	1/06/2021 15:42	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability, decrease in net import and increase in forecast demand.	1471	1427	485.9	LCR2
1/06/2021 17:30 - 20:00	86384	1/06/2021 17:44	LOR1	Actual	Actual LOR1 declared as forecasted in MN 86382. Effective period extended due to a decrease in generation availability.	1400	982	360	LCR2
1/06/2021	86410	1/06/2021 19:14	LOR1	Cancelled	This cancelled MN 86384. Actual LOR1 was cancelled when the effective period elapsed.	1410	1832	328	LCR2
03/06/2021 18:00 - 18:30	86470	2/06/2021 22:30	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1343	776	LCR2
03/06/2021 07:30 - 08:00	86471	3/06/2021 3:21	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1413	598	LCR2
3/06/2021	86472	3/06/2021 5:37	LOR1	Cancelled	MN 86471 cancelled. Forecast LOR1 cancelled due to increased generation availability.	1430	1449	553	LCR2
03/06/2021 07:30 - 08:30	86477	3/06/2021 7:42	LOR1	Actual	Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition.	1430	1354	344	LCR2
3/06/2021	86489	3/06/2021 8:33	LOR1	Cancelled	MN 86477 cancelled. Actual LOR1 cancelled due to increased generation availability.	1400	1413	494	LCR2
03/06/2021 09:30 - 12:00	86487	3/06/2021 8:34	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and increased demand.	1400	1271	581	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
03/06/2021 09:00 - 12:00	86490	3/06/2021 9:08	LOR1	Actual	Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition.	1400	1250	522	LCR2
03/06/2021 17:30 - 18:30	86492	3/06/2021 11:37	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1327	630	LCR2
3/06/2021	86493	3/06/2021 12:41	LOR1	Cancelled	MN 86490 cancelled. Actual LOR1 cancelled due to increased generation availability.	1400	2124	213	LCR2
03/06/2021 17:00 - 19:00	86494	3/06/2021 14:26	LOR1	Update	Update to MN 86492 due to change in effective period.	1430	964	537	LCR2
03/06/2021 16:30 - 19:00	86502	3/06/2021 16:49	LOR1	Actual	Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition.	1440	880	360	LCR2
03/06/2021 17:30 - 19:00	86526	3/06/2021 17:44	LOR2	Actual	Actual LOR2 declared. Decreased generation availability caused an LOR1 condition to progress to LOR2.	710	630	213	LCR
3/06/2021	86529	3/06/2021 18:07	LOR2	Cancelled	MN 86526 cancelled. Actual LOR2 cancelled due to increased generation availability.	710	1165	213	LCR
3/06/2021	86531	3/06/2021 19:08	LOR1	Cancelled	MN 86502 cancelled. Actual LOR1 cancelled due to increased generation availability.	1440	1658	213	LCR2
10/06/2021 17:30 - 19:00	86729	7/06/2021 14:52	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1414	1218	n/a – forecast > 72 hrs ahead	LCR2
10/06/2021 17:30 - 19:00	86754	7/06/2021 21:20	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability.	1202	1117	1202	FUM
10/06/2021 17:30 - 18:30	86781	8/06/2021 15:11	LOR2	Update	Update to MN 86754 due to change in demand and reserve forecasts.	1475	1384	1475	FUM
10/06/2021	86784	8/06/2021 15:42	LOR2	Cancelled	MN 86781 cancelled. Forecast LOR2 cancelled due to increased generation availability and reduced demand.	1406	1524	1406	FUM

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
10/06/2021 17:30 - 18:30	86790	8/06/2021 18:40	LOR2	Forecast	Forecast LOR2 declared due to decreased generation and import availability.	1568	1516	1568	FUM
10/06/2021	86812	9/06/2021 1:36	LOR2	Cancelled	MN 86790 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1400	1430	1302	LCR
10/06/2021 17:30 - 18:30	86817	9/06/2021 5:26	LOR2	Forecast	Forecast LOR2 declared due to decreased generation and import availability.	1400	1219	1377	LCR
10/06/2021 17:30 - 18:30	86818	9/06/2021 12:51	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1400	1283	1165	LCR2
10/06/2021 17:30 - 18:30	86819	9/06/2021 13:14	LOR2	Cancelled	MN 86817 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1165	1283	1195	LCR
10/06/2021 16:30 - 18:30	86849	10/06/2021 5:43	LOR1	Update	Update to MN 86754 due to change in effective period.	1400	1219	728	LCR2
10/06/2021 16:00 - 19:00	86887	10/06/2021 16:46	LOR1	Actual	Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition.	1430	937	374	LCR2
10/06/2021	86915	10/06/2021 19:10	LOR1	Cancelled	MN 86887 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1430	937	213	LCR2
16/06/2021 07:30 - 08:00	87045	13/06/2021 13:43	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability.	1403	1270	1403	FUM
16/06/2021	87060	14/06/2021 1:20	LOR2	Cancelled	MN 87045 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1243	1302	1293	LCR
16/06/2021 07:30 - 08:30	87061	14/06/2021 5:58	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability.	1430	1278	1354	LCR
16/06/2021	87063	14/06/2021 12:39	LOR2	Cancelled	MN 87061 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1430	1621	1318	LCR
18/06/2021 07:30 - 08:30	87064	14/06/2021 14:37	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and decreased net import.	1430	1287	n/a – forecast > 72 hrs ahead	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
21/06/2021 07:30 - 09:00	87064	14/06/2021 14:37	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and decreased net import.	1400	1103	n/a – forecast > 72 hrs ahead	LCR2
21/06/2021 16:30 - 20:00	87064	14/06/2021 14:37	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and decreased net import.	1400	931	n/a – forecast > 72 hrs ahead	LCR2
15/06/2021 17:30 - 19:00	87220	15/06/2021 14:50	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and decreased net import.	1430	1190	534	LCR2
18/06/2021 07:30 - 08:30	87219	15/06/2021 15:13	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and decreased net import.	1531	1393	1531	FUM
22/06/2021 07:30 - 08:00	87219	15/06/2021 15:13	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and decreased net import.	700	562	n/a – forecast > 72 hrs ahead	LCR
21/06/2021 07:30 - 08:30	87222	15/06/2021 15:14	LOR1	Forecast	Forecast LOR1 declared due to decreased generation and import availability.	1400	1124	n/a – forecast > 72 hrs ahead	LCR2
21/06/2021 17:30 - 19:00	87222	15/06/2021 15:14	LOR1	Forecast	Forecast LOR1 declared due to decreased generation and import availability.	1478	1265	n/a – forecast > 72 hrs ahead	LCR2
22/06/2021 08:00 - 09:00	87222	15/06/2021 15:14	LOR1	Forecast	Forecast LOR1 declared due to decreased generation and import availability.	1400	727	n/a – forecast > 72 hrs ahead	LCR2
22/06/2021 16:30 - 17:00	87222	15/06/2021 15:14	LOR1	Forecast	Forecast LOR1 declared due to decreased generation and import availability.	1400	1378	n/a – forecast > 72 hrs ahead	LCR2
22/06/2021 17:30 - 20:00	87222	15/06/2021 15:14	LOR1	Forecast	Forecast LOR1 declared due to decreased generation and import availability.	1512	914	n/a – forecast > 72 hrs ahead	LCR2
15/06/2021 18:00 - 18:30	87225	15/06/2021 17:16	LOR1	Update	Update to MN 87220 due to change in effective period.	1400	1234	328	LCR2
15/06/2021	87233	15/06/2021 17:42	LOR1	Cancelled	MN 87225 cancelled. Forecast LOR1 cancelled due to increased generation availability.	1400	1441	360	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
18/06/2021	87326	15/06/2021 21:27	LOR2	Cancelled	LOR2 declared for 18/06/21 in MN 87219 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1516	1913	1516	FUM
16/06/2021 08:00 - 08:30	87354	16/06/2021 7:16	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1409	382	LCR2
16/06/2021 07:30 - 08:00	87361	16/06/2021 7:46	LOR1	Actual	Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition.	1430	1415	240	LCR2
16/06/2021	87368	16/06/2021 8:14	LOR1	Cancelled	MN 87354 cancelled. Forecast LOR1 cancelled due to increased generation availability.	1430	2065	264	LCR2
18/06/2021 08:00 - 08:30	87371	16/06/2021 9:56	LOR2	Forecast	Forecast LOR2 declared due to decreased generation and import availability.	1682	1673	1682	FUM
18/06/2021	87377	16/06/2021 12:47	LOR2	Cancelled	MN 87371 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1550	1601	1550	FUM
21/06/2021 08:00 - 09:30 17:00 - 20:30	87388	16/06/2021 15:35	LOR1	Cancelled	LOR1 declared for 21/06/21 in MN 87064 cancelled. Forecast LOR1 cancelled due to increased generation availability.	1400	1613	n/a – forecast > 72 hrs ahead	LCR2
22/06/2021 08:00 - 09:00	87389	16/06/2021 16:10	LOR1	Update	Update to LOR1 for 22/06/2021 in MN 87222 due to change in effective period and LOR level.	1400	1002	n/a – forecast > 72 hrs ahead	LCR2
22/06/2021 18:00 - 19:30	87389	16/06/2021 16:10	LOR1	Update	Update to LOR1 for 22/06/2021 in MN 87222 due to change in effective period.	1496	1337	n/a – forecast > 72 hrs ahead	LCR2
16/06/2021 17:00 - 17:30	87394	16/06/2021 17:14	LOR1	Actual	Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition.	1400	1268	213	LCR2
16/06/2021 17:30 - 18:30	87396	16/06/2021 17:43	LOR1	Update	Update to MN 87394 due to change in effective period.	1400	935	213	LCR2
16/06/2021	87399	16/06/2021 19:41	LOR1	Cancelled	MN 87396 cancelled. Actual LOR1 cancelled due to increased generation availability.	1430	1667	213	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
22/06/2021	87461	17/06/2021 15:08	LOR1	Cancelled	MN 87389 cancelled. Forecast LOR1 cancelled due to increased generation availability.	1430	2058	n/a – forecast > 72 hrs ahead	LCR2
22/06/2021	87462	17/06/2021 16:15	LOR2	Correction	Correction of typo in heading of MN 87461	NA	NA	NA	NA
23/06/2021 07:30 - 08:00	87530	21/06/2021 8:56	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability.	1606	1522	1606	FUM
23/06/2021	87532	21/06/2021 12:43	LOR2	Cancelled	MN 87530 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1528	1569	1528	FUM
21/06/2021 17:30 - 18:00	87533	21/06/2021 14:50	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1400	556	LCR2
21/06/2021	87549	21/06/2021 17:48	LOR1	Cancelled	MN 87533 cancelled. Forecast LOR1 cancelled due to increased generation availability.	1454	1578	213	LCR2
22/06/2021 17:30 - 18:30	87597	22/06/2021 10:10	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1345	736	LCR2
22/06/2021 17:30 - 19:00	87599	22/06/2021 11:53	LOR1	Update	Update to MN 87597 due to change in effective period.	1430	1266	680	LCR2
22/06/2021 17:30 - 18:30	87604	22/06/2021 17:38	LOR1	Actual	Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition.	1400	1361	328	LCR2
22/06/2021 17:30 - 20:00	87606	22/06/2021 19:12	LOR1	Update	Update to MN 87604 due to change in effective period.	1400	1260	328	LCR2
22/06/2021	87605	22/06/2021 19:42	LOR1	Cancelled	MN 87606 cancelled. Actual LOR1 cancelled due to increased generation availability.	1400	1873	213	LCR2
23/06/2021 17:00 - 17:30	87616	23/06/2021 17:14	LOR1	Actual	Actual LOR1 declared. Decreased generation availability caused an actual LOR1 condition.	1400	1293	213	LCR2
23/06/2021	87617	23/06/2021 17:37	LOR1	Cancelled	MN 87616 cancelled. Actual LOR1 cancelled due to increased generation availability.	1413	1495	213	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
28/06/2021 07:30 - 08:30	87684	26/06/2021 7:21	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability.	1583	1462	1583	FUM
28/06/2021 17:30 - 19:00	87684	26/06/2021 7:21	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability.	1637	1500	1637	FUM
28/06/2021	87697	26/06/2021 13:19	LOR2	Cancelled	MN 87684 cancelled. Forecast LOR2 cancelled due to increased generation availability.	1552	1613	1552	FUM
28/06/2021 17:30 - 18:30	87717	28/06/2021 15:49	LOR1	Forecast	Forecast LOR1 declared due to decreased generation and import availability.	1430	1403	473	LCR2
28/06/2021	87718	28/06/2021 16:20	LOR1	Cancelled	MN 87717 cancelled. Forecast LOR1 cancelled due to increased generation availability.	1430	1518	434	LCR2
29/06/2021 17:30 - 18:00	87772	29/06/2021 17:43	LOR1	Actual	Actual LOR1 declared. Decreased import availability caused an actual LOR1 condition.	1410	1406	213	LCR2
29/06/2021	87773	29/06/2021 18:12	LOR1	Cancelled	MN 87772 cancelled. Actual LOR1 cancelled due to increased generation availability.	1430	1437	213	LCR2
<b>Queensland region</b>									
21/05/2021 18:00 - 18:30	85679	19/05/2021 14:14	LOR1	Suspect	Forecast LOR1 declared due to decreased generation availability.	1,163	1,140	676	LCR2
21/05/2021 18:00 - 18:30	85679	19/05/2021 14:14	LOR1	Update	AEMO considers this forecast LOR1 condition invalid due to input errors.	NA	NA	NA	NA
25/05/2021 17:30 - 19:00	85952	25/05/2021 15:21	LOR2	Forecast	Forecast LOR2 declared due to sudden decrease in generation availability.	443	367	398	LCR
25/05/2021 15:30 - 17:30, 19:00 - 21:30	85955	25/05/2021 15:29	LOR1	Forecast	Forecast LOR1 declared due to sudden decrease in generation availability.	863	456	428	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
25/05/2021 16:30 - 21:30	85992	25/05/2021 16:44	LOR2	Actual	Actual LOR2 declared. Significant generation availability decreased causing an actual LOR2 condition.	443	240	160	LCR
25/05/2021 17:00 - 21:00	85990	25/05/2021 17:07	LOR3	Forecast	LOR3 forecasted due to decreased generation availability with an increase in demand forecast with load being restored.	0	-1043	258	0
25/05/2021	86038	25/05/2021 19:23	LOR3	Cancelled	This cancelled MN 85990. Update LOR3 cancelled due to increased generation availability and reduced forecast demand.	0	818	258	0
25/05/2021	86029	25/05/2021 19:13	LOR 2	Cancelled	This cancelled MN 85992. Actual LOR2 cancelled due to increased generation availability.	424	818	258	LCR
25/05/2021	86039	25/05/2021 19:24	LOR1	Cancelled	This cancelled MN 85955. Forecast LOR1 cancelled due to increased generation availability.	802	818	258	LCR2
26/05/2021 17:00 - 17:30, 18:30 - 19:00	86040	25/05/2021 19:55	LOR1	Forecast	Forecast LOR1 declared due to decrease in generation availability.	774	646	640	LCR2
26/05/2021 17:30 - 18:30, 19:30 - 20:00	86041	25/05/2021 19:56	LOR2	Forecast	Forecast LOR2 declared due to decrease in generation availability and slight increase in FUM.	696	575	696	FUM
25/05/2021	86061	25/05/2021 22:20	LOR2	Cancelled	This cancelled MN 86041. Forecast LOR2 cancelled due to decrease in FUM.	511	579	511	FUM
26/05/2021 17:00 - 20:00	86060	25/05/2021 22:19	LOR1	Update	Update to MN 86040. Effective period in forecast LOR1 updated due decrease in FUM.	868	579	511	LCR2
26/05/2021 17:00 - 21:30	86068	26/05/2021 7:42	LOR1	Update	Update to MN 86060. Effective period in forecast LOR1 updated due to decreased generation availability and increased demand.	878	462	405	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
26/05/2021 17:00 - 19:30	86070	26/05/2021 10:11	LOR1	Update	Update to MN 86068. Effective period in forecast LOR1 updated due to increased generation availability.	878	793	401	LCR2
26/05/2021 17:30 - 20:00	86078	26/05/2021 17:36	LOR1	Actual	Actual LOR1 declared due to decreased generation.	878	865	268	LCR2
26/05/2021	86079	26/05/2021 18:12	LOR1	Cancelled	This cancelled MN 86078. Actual LOR1 cancelled due to increased generation availability and decreased demand.	878	1037	289	LCR2
26/05/2021	86080	26/05/2021 18:20	LOR1	Cancelled	This cancelled MN 86060. Forecast LOR1 cancelled due to increased generation availability and decreased demand.	878	1037	289	LCR2
28/05/2021 19:30 - 20:00	86116	27/05/2021 14:15	LOR1	Forecast	Forecast LOR1 declared due to decrease in generation availability.	878	818	614	LCR2
28/05/2021 17:30 - 19:00	86118	27/05/2021 16:09	LOR1	Update	Update to MN 86116. Effective period in forecast LOR1 updated due to increased generation availability.	878	927	528	LCR2
28/05/2021	86122	28/05/2021 2:12	LOR1	Cancelled	This cancelled MN 86118. Forecast LOR1 cancelled due to increased generation availability.	878	922	423	LCR2
28/05/2021 17:30 - 18:30, 19:30 - 20:00	86125	28/05/2021 7:25	LOR1	Forecast	Forecast LOR1 declared due to decrease in generation availability and increase in demand.	878	848	411	LCR2
28/05/2021 17:30 - 19:00, 19:30 - 20:00	86142	28/05/2021 8:16	LOR1	Update	Update to MN 86125. Effective period in forecast LOR1 updated due to decreased generation availability.	878	603	423	LCR2
28/05/2021	86143	28/05/2021 9:34	LOR1	Cancelled	This cancelled MN 86142. Forecast LOR1 cancelled due to increased generation availability.	878	938	386	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
31/05/2021 17:30 - 18:00, 18:30 - 19:00	86223	29/05/2021 15:44	LOR1	Forecast	Forecast LOR1 declared due to slight decrease in generation availability and increase in demand.	878	719	676	LCR2
31/05/2021 18:00 - 18:30	86224	29/05/2021 15:45	LOR2	Forecast	Forecast LOR2 declared due to slight decrease in generation availability and increase in demand.	683	595	683	FUM
31/05/2021	86262	29/05/2021 22:12	LOR2	Cancelled	This cancelled MN 86224. Forecast LOR2 cancelled due to increased generation availability.	661	1457	684	LCR
31/05/2021	86263	29/05/2021 22:20	LOR1	Cancelled	This cancelled MN 86223. Forecast LOR1 cancelled due to increased generation availability.	878	1457	684	LCR2
3/06/2021 17:00 - 21:00	86495	3/06/2021 14:46	LOR1	Forecast	Forecast LOR1 declared due to slight increase in demand	878	843	684	LCR2
03/06/2021	86515	3/06/2021 17:17	LOR1	Cancelled	This cancelled MN 86495. Forecast LOR1 cancelled due to increased generation availability.	878	923	684	LCR2
10/06/2021 19:30 - 20:00	86675	5/06/2021 14:24	LOR1	Forecast	Forecast LOR1 declared due to decrease in generation availability.	878	869	n/a – forecast > 72 hrs ahead	LCR2
10/06/2021 19:30 - 20:00	86701	6/06/2021 14:19	LOR1	Update	Update to MN 86675. Effective period in forecast LOR1 updated due to increased generation availability.	878	812	n/a – forecast > 72 hrs ahead	LCR2
10/06/2021 17:30 - 20:30	86728	7/06/2021 14:49	LOR1	Update	Update to MN 86701. Effective period in forecast LOR1 updated due to decreased generation availability.	878	580	684	LCR2
10/06/2021 17:30 - 20:30	86752	7/06/2021 20:17	LOR2	Forecast	Forecast LOR2 declared due to decrease in generation availability.	822	553	822	FUM
10/06/2021 18:00 - 19:00, 20:00 - 20:30	86768	8/06/2021 9:55	LOR2	Update	Update to MN 86752. Effective period in forecast LOR2 updated due to increased generation availability.	658	577	658	FUM

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
10/06/2021 17:30 - 18:30	86771	8/06/2021 11:44	LOR2	Cancelled	This cancelled MN 86768. Forecast LOR2 cancelled due to increased generation availability.	686	1067	686	LCR
10/06/2021	86782	8/06/2021 15:09	LOR1	Cancelled	This cancelled MN 86728. Forecast LOR1 cancelled due to increased generation availability.	650	941	684	LCR2
11/06/2021 20:00 - 20:30	86780	8/06/2021 15:10	LOR1	Forecast	Forecast LOR1 declared due to decrease in generation availability.	878	849	n/a – forecast > 72 hrs ahead	LCR2
11/06/2021	86841	9/06/2021 15:33	LOR1	Cancelled	This cancelled MN 86780. Forecast LOR1 cancelled due to increased generation availability.	878	1041	684	LCR2
10/06/2021 17:30 - 18:00	86894	10/06/2021 17:30	LOR1	Forecast	Forecast LOR1 declared due to increase in demand.	878	794	684	LCR2
10/06/2021 18:00 - 18:30	86902	10/06/2021 18:12	LOR1	Actual	Actual LOR1 declared due to decrease in net import.	878	861	684	LCR2
10/06/2021	86914	10/06/2021 18:56	LOR1	Cancelled	This cancelled MN 86902. Actual LOR1 cancelled due to its time having come to an end.				
15/06/2021 7:00 - 7:30	86983	11/06/2021 15:03	LOR1	Forecast	Forecast LOR1 declared due to decrease in net import.	878	755	n/a – forecast > 72 hrs ahead	LCR2
15/06/2021	87036	12/06/2021 14:23	LOR1	Cancelled	This cancelled MN 86983. Forecast LOR1 cancelled due to increased net import.	878	1219	n/a – forecast > 72 hrs ahead	LCR2
14/06/2021 17:30 - 20:00	87058	13/06/2021 18:11	LOR1	Forecast	Forecast LOR1 declared due to decrease in generation availability.	878	864	554	LCR2
14/06/2021	87059	13/06/2021 20:25	LOR1	Cancelled	This cancelled MN 87058. Forecast LOR1 cancelled due to increased generation availability.	878	973	531	LCR2
14/06/2021 17:00 - 20:30	87062	14/06/2021 7:38	LOR1	Forecast	Forecast LOR1 declared due to decrease in generation availability and an increase in demand.	878	799	411	LCR2
14/06/2021 17:40 - 20:30	87070	14/06/2021 17:38	LOR1	Actual	Actual LOR1 declared due to decrease in generation availability and an increase in demand.	878	791	268	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
14/06/2021	87104	14/06/2021 18:59	LOR1	Cancelled	This cancelled MN 87070. Actual LOR1 cancelled due to increased generation availability.	878	1004	302	LCR2
15/06/2021 17:30 - 19:00, 17:30 - 20:00	87221	15/06/2021 14:51	LOR1	Forecast	Forecast LOR1 declared due to decrease in generation availability and an increase in demand.	878	753	377	LCR2
15/06/2021	87236	15/06/2021 17:43	LOR1	Cancelled	This cancelled MN 87221. Forecast LOR1 cancelled due to increased generation availability.	873	900	342	LCR2
31/05/2021 18:00 - 18:30	86188	28/05/2021 20:35	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1202	1181	1202	FUM
31/05/2021 17:30 - 19:00	86193	28/05/2021 22:35	LOR2	Update	Update to MN 86188 due to change in effective period. LOR2 period expanded as FUM increased (FUM was setting the LOR2 trigger level).	1243	1103	1243	FUM
31/05/2021 7:30 - 8:00	86218	29/05/2021 13:00	LOR2	Forecast	Forecast LOR2 declared due to significant decrease in generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1500	1319	1500	FUM
31/05/2021 17:00 - 20:30	86218	29/05/2021 13:00	LOR2	Update	Update to MN 86193 due to change in effective period. LOR2 period expanded and worsened due to significant decrease in generation availability and slight increase in FUM.	1382	538	1382	FUM
01/06/2021 07:30 - 08:00	86218	29/05/2021 13:00	LOR2	Forecast	Forecast LOR2 declared due to significant decrease in generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1392	1376	1392	FUM
30/05/2021 16:30 - 17:00	86219	29/05/2021 13:01	LOR2	Forecast	Forecast LOR2 declared due to significant decrease in generation availability.	1208	1000	1208	FUM
29/05/2021 16:30 - 17:00	86222	29/05/2021 15:00	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability and sudden increase in forecast demand.	1430	1265	494	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
31/05/2021 17:00 - 20:30	86220	29/05/2021 15:08	LOR2	Update	Update to MN 86218. This MN was not required to be issued as no significant change in the LOR2 effective period.	1274	607	1274	FUM
31/05/2021 07:30 - 08:00	86221	29/05/2021 15:09	LOR1	Update	Update to MN 86218 due to change in effective period. LOR2 period downgraded to LOR1 as FUM decreased (FUM was setting the LOR2 trigger level).	1506	1354	1348	LRC2
31/05/2021 20:30 - 21:00	86221	29/05/2021 15:09	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1539	1422	1255	LRC2
01/06/2021 07:00 - 08:00	86221	29/05/2021 15:09	LOR1	Update	Update to MN 86218 due to change in effective period. LOR2 period downgraded to LOR1 as FUM decreased (FUM was setting the LOR2 trigger level).	1541	1371	1369	LRC2
01/06/2021 17:30 - 19:30	86221	29/05/2021 15:09	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1538	1074	n/a - forecast > 72 hrs ahead	LCR2
03/06/2021 17:00 - 20:30	86221	29/05/2021 15:09	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	795	n/a - forecast > 72 hrs ahead	LCR2
04/06/2021 17:30 - 19:00	86221	29/05/2021 15:09	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	1430	1168	n/a - forecast > 72 hrs ahead	LCR2
29/05/2021 1730 - 1800	86225	29/05/2021 16:23	LOR1	Forecast	Forecast LOR1 declared due to sudden decrease in generation availability and gradual increase in forecast demand.	1442	1397	434	LCR2
30/05/2021	86232	29/05/2021 16:40	LOR2	Cancelled	This cancelled MN 85351. Forecast LOR1 cancelled due to a decrease in FUM.	905	1072	905	FUM
30/05/2021 16:30 - 17:00	86233	29/05/2021 16:41	LOR1	Update	Update to MN 86219 due to change in effective period. LOR2 period downgraded to LOR1 as FUM decreased (FUM was setting the LOR2 trigger level).	1430	1072	905	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
29/05/2021	86240	29/05/2021 16:44	LOR1	Cancelled	This cancelled MN 86225. Forecast LOR1 cancelled due to an increase in net import.	1440	1521	360	LCR2
31/05/2021 17:00 – 20:30	86241	29/05/2021 17:20	LOR2	Update	Update to MN 86220. This MN was not required to be issued as no significant change in the LOR2 effective period.	1224	595	1224	FUM
01/06/2021 07:30 – 08:00	86241	29/05/2021 17:20	LOR2	Update	Update to MN 86221 due to change in effective period. LOR1 period upgraded to LOR2 as FUM increased (FUM was setting the LOR2 trigger level).	1344	1331	1344	FUM
29/05/2021 17:30 - 18:30	86242	29/05/2021 17:23	LOR1	Update	Update to MN 86240. Forecast LOR1 declared due to decreased generation availability and further gradual increase in forecast demand.	1449	1298	328	LCR2
29/05/2021 17:30 - 18:00	86243	29/05/2021 17:41	LOR1	Actual	Actual LOR1 declared. Significant generation availability decreased quickly and further gradual increase in forecast demand causing an actual LOR1 condition.	1445	1231	213	LCR2
29/05/2021	86244	29/05/2021 18:38	LOR1	Cancelled	This cancelled MN 86243. Actual LOR1 was cancelled when the effective period elapsed.	1452	1597	213	LCR2
29/05/2021	86245	29/05/2021 18:39	LOR1	Cancelled	This cancelled MN 86242. LOR1 condition cleared after effective period elapsed.	1452	1597	213	LCR2
29/05/2021 21:00 - 22:00	86258	29/05/2021 19:23	LOR1	Forecast	Forecast LOR1 declared due to sudden decrease in generation availability and decrease in net import.	1445	1119	473	LCR2
29/05/2021 21:00 - 21:30	86259	29/05/2021 21:09	LOR1	Actual	Actual LOR1 declared. Significant generation availability decreased quickly and decrease in net import causing an actual LOR1 condition.	1469	1415	213	LCR2
29/05/2021	86260	29/05/2021 21:38	LOR1	Cancelled	This cancelled MN 86259. Actual LOR1 was cancelled when the effective period elapsed.	1445	1673	213	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
29/05/2021	86261	29/05/2021 21:41	LOR1	Cancelled	This cancelled MN 86258. LOR1 condition cleared after effective period elapsed.	1445	1673	213	LCR2
31/05/2021	86264	29/05/2021 22:31	LOR2	Cancelled	This cancelled MN 86241. Forecast LOR2 cancelled due to increased generation availability and increased net import.	1108	1480	1108	FUM
30/05/2021 16:30 - 17:00	86265	29/05/2021 22:41	LOR1	Update	Update to MN 86233. This MN was not required to be issued as no significant change in the LOR1 effective period.	1430	1135	796	LCR2
1/06/2021 07:30 - 08:00	86266	30/05/2021 8:38	LOR2	Update	Update to MN 86241. This MN was not required to be issued as no significant change in the LOR2 effective period.	1424	1409	1424	FUM
31/05/2021 07:30 - 08:00	86267	30/05/2021 10:45	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1265	1002	1265	FUM
31/05/2021 17:30 - 19:00	86267	30/05/2021 10:45	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability, increase in forecast demand and increase in FUM (FUM was setting the LOR2 trigger level).	1365	1102	1365	FUM
01/06/2021 07:00 - 08:30	86267	30/05/2021 10:45	LOR2	Forecast	Forecast LOR2 declared due to decreased generation availability and increase in FUM (FUM was setting the LOR2 trigger level).	1576	1360	1576	FUM
<b>South Australia region</b>									
16/04/2021 07:00 - 07:30	84074	9/04/2021 15:07	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	393	372	n/a – forecast > 72 hrs ahead	LCR2
16/04/2021	84087	10/04/2021 17:56	LOR1	Cancelled	MN 84074 cancelled. Forecast LOR1 cancelled due to increased generation availability.	393	440	n/a – forecast > 72 hrs ahead	LCR2
16/04/2021 07:00 - 08:00	84112	11/04/2021 14:15	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	393	340	n/a – forecast > 72 hrs ahead	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
16/04/2021	84186	12/04/2021 17:04	LOR1	Cancelled	MN 84112 cancelled. Forecast LOR1 cancelled due to increased generation availability.	393	517	n/a – forecast > 72 hrs ahead	LCR2
29/04/2021 07:00 - 08:00	84657	23/04/2021 14:32	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	463	436	n/a – forecast > 72 hrs ahead	LCR2
29/04/2021	84734	24/04/2021 14:30	LOR1	Cancelled	MN 84657 cancelled. Forecast LOR1 cancelled due to increased generation availability.	463	505	n/a – forecast > 72 hrs ahead	LCR2
01/06/2021 18:00 - 19:00	85940	25/05/2021 15:06	LOR1	Forecast	Forecast LOR1 declared due to decreased generation availability.	420	361	n/a – forecast > 72 hrs ahead	LCR2
1/06/2021	86077	26/05/2021 14:57	LOR1	Cancelled	MN 85940 cancelled. Forecast LOR1 cancelled due to increased generation availability.	420	475	n/a – forecast > 72 hrs ahead	LCR2
<b>Tasmania region</b>									
Nil									
<b>Victoria region</b>									
21/04/2021 07:30 - 8:30	84526	21/04/2021 7:44	LOR1	Actual	Actual LOR1 declared. Significant forecast demand increased quickly leading up to real-time causing an actual LOR1 condition.	1142	1095	166	LCR2
21/04/2021	84527	21/04/2021 8:18	LOR1	Cancelled	This cancelled MN 84526. Actual LOR1 cancelled due to increased generation availability and increase in net import and slight decrease in forecast demand.	1142	1225	166	LCR2
21/04/2021 18:00 - 18:30	84615	21/04/2021 18:14	LOR1	Actual	Actual LOR1 declared. Net import decreased significantly and forecast demand increased gradually leading up to real-time causing an actual LOR1 condition.	1142	1121	166	LCR2
21/04/2021	84616	21/04/2021 18:30	LOR1	Cancelled	This cancelled MN 84615. Actual LOR1 cancelled as condition cleared after effective period.	1142	2025	160	LCR2

Effective date and time	Market Notice ID	Issue date and time	Level	Actual, forecast, update or cancel	Comments	Reserve requirement (MW) <sup>A</sup>		FUM value (MW) <sup>B</sup>	Reserve requirement set by
						Required	Available		
12/05/2021 17:30 - 19:30	85351	12/05/2021 5:20	LOR1	Forecast	Forecast LOR1 declared due to sudden decreased generation availability.	1142	770	663	LCR2
12/05/2021	85356	12/05/2021 10:15	LOR1	Cancelled	This cancelled MN 85351. Forecast LOR1 cancelled due to an increase in net import.	1142	1203	544	LCR2
04/06/2021 17:00 - 21:00	86145	28/05/2021 14:57	LOR1	Suspect	AEMO is currently investigating this LOR1 forecast condition to confirm whether it is valid.	1164	699	n/a – forecast > 72 hrs ahead	LCR2
4/06/2021	86146	28/05/2021 15:56	LOR1	Update	This updates MN 86145. AEMO considers this forecast LOR1 condition invalid due to input errors.	NA	NA	NA	NA

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

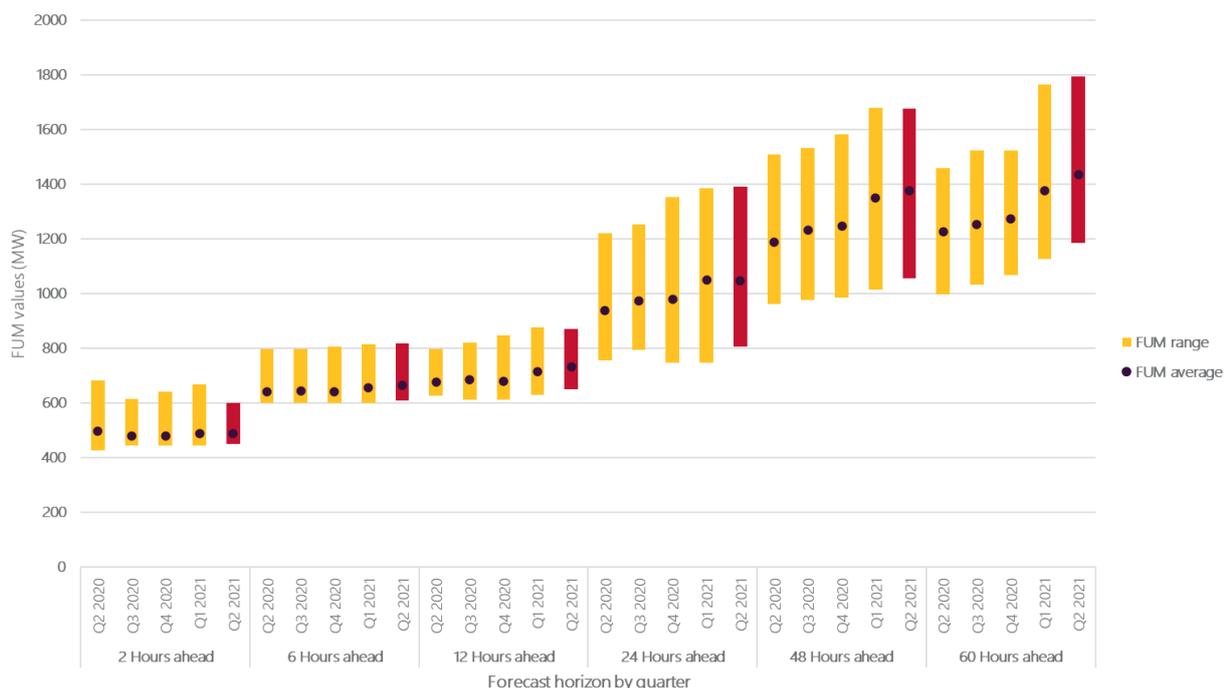
## 4.1 Forecast Uncertainty Measure values

This section compares the mean, minimum, and maximum FUM values for this reporting period to those for each quarter from Quarter 2 2020 to Quarter 2 2021 (see Figure 1 through Figure 5 below). 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.

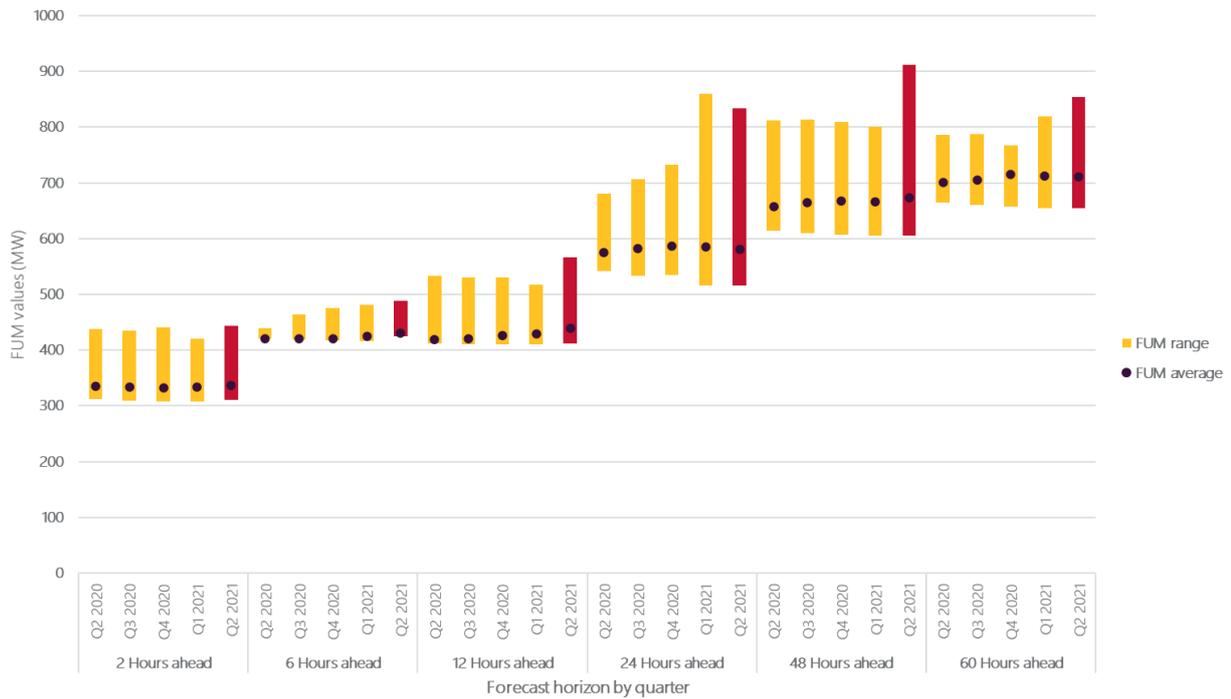
The most material changes in FUM values between Quarter 1 2021 and Quarter 2 2021 are summarised below. For forecast horizons not mentioned below, the changes from Quarter 1 2021 were minor:

- New South Wales – the mean FUM values increased for the 6, 12, 48 and 60 hours ahead forecast horizons. The minimum FUM values increased for the 6, 12, 48 and 60 hours ahead forecast horizons. The maximum FUM values remained steady.
- Queensland – the maximum FUM values increased for the 2, 6, 12, 48 and 60 hours ahead forecast horizons. The mean and minimum FUM values for all horizons had very small changes.
- South Australia – the mean FUM values decreased in the 12, 24 and 48 hour ahead forecast horizons. The maximum FUM values decreased for all except the 2 hour ahead forecast horizon.
- Tasmania – the mean FUM values increased for all forecast horizons. The maximum FUM values increased for the 2, 6, 12, 24 and 48 hours ahead forecast horizons. The minimum FUM values increased for the 12 hours ahead forecast horizon.
- Victoria – the maximum FUM values increased for all forecast horizons. The mean FUM values decreased for the 6, 12, 24, 28 and 60 hours ahead forecast horizons. The minimum FUM values decreased for the 12, 24, 48 and 60 hours ahead forecast horizons.

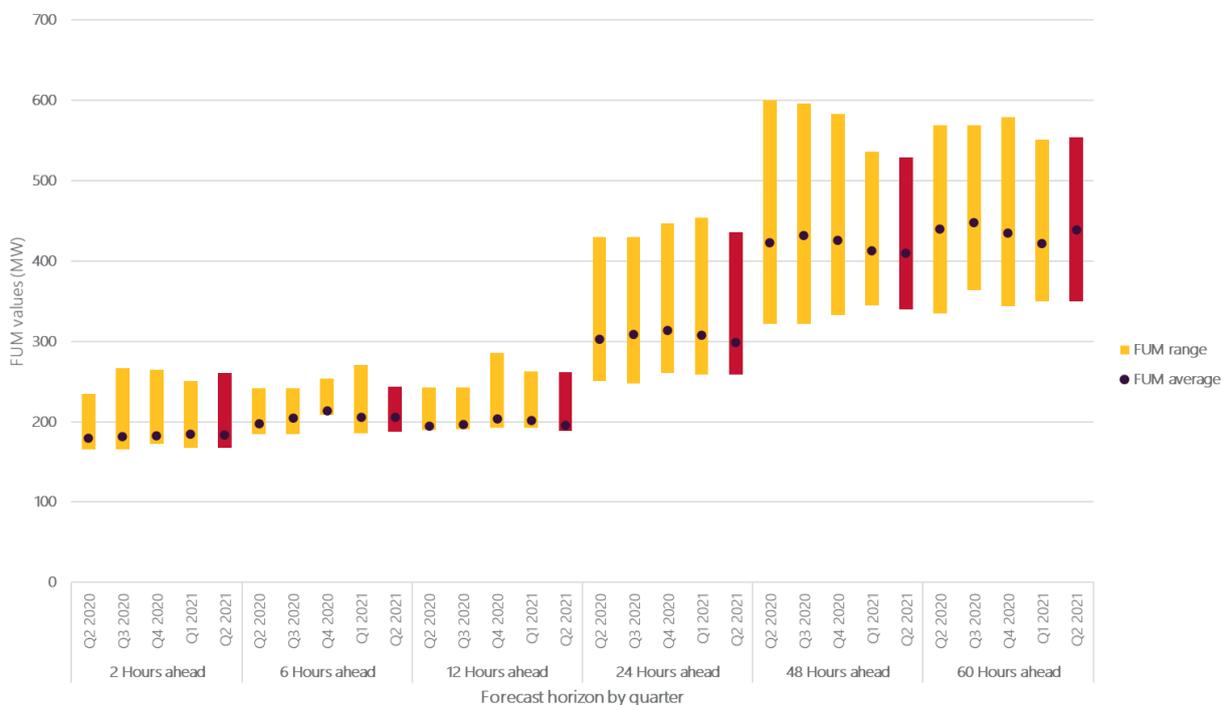
**Figure 1 New South Wales region: maximum, minimum, and mean FUM values for the reporting period, and compared to previous four quarters**



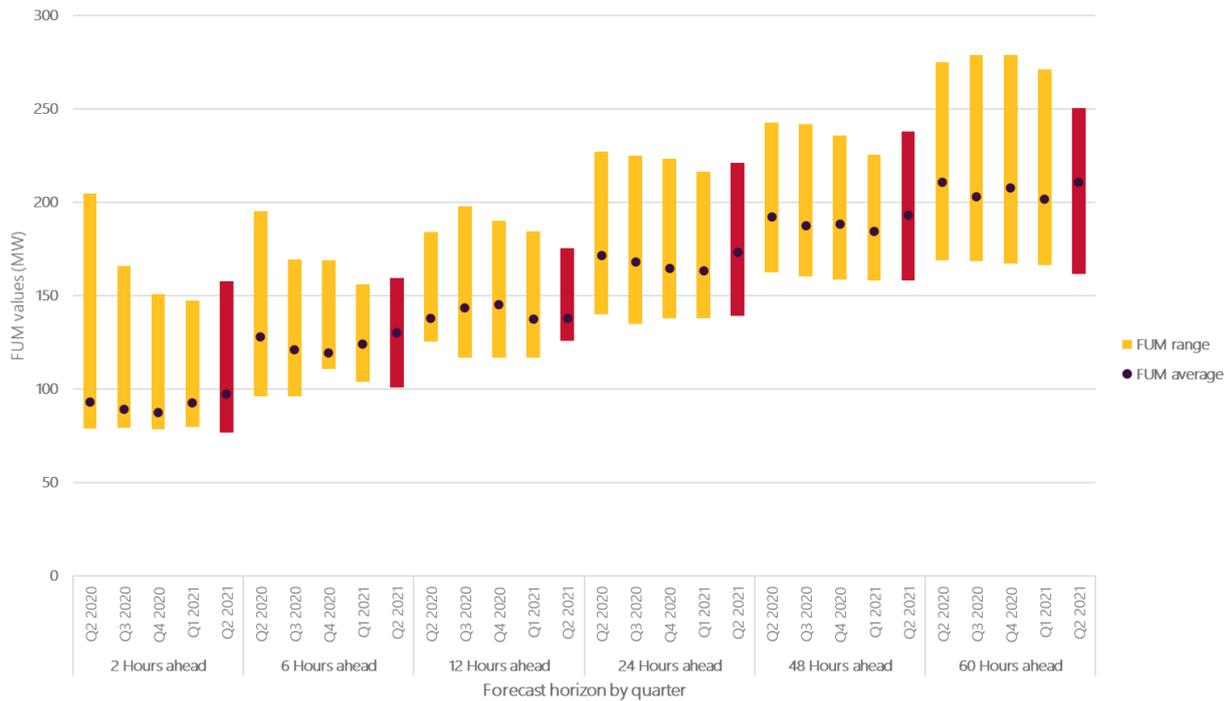
**Figure 2 Queensland region: maximum, minimum, and mean FUM values for the reporting period, and compared to previous four quarters**



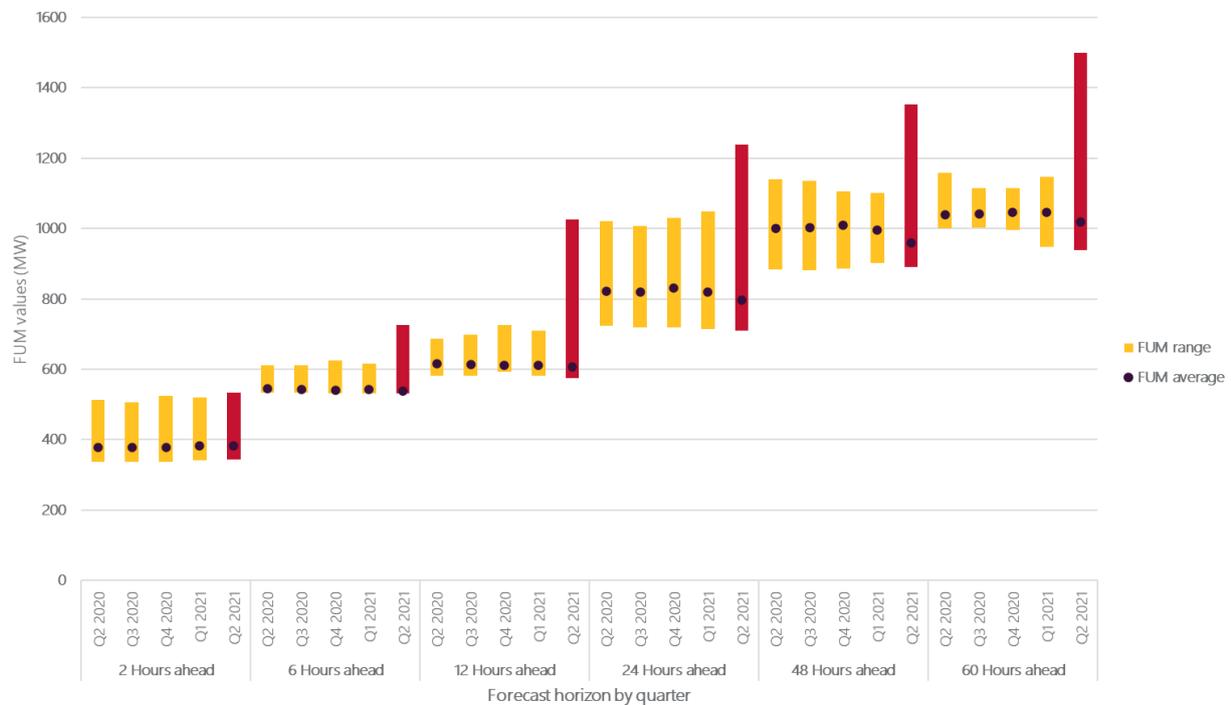
**Figure 3 South Australia region: maximum, minimum, and mean FUM values for the reporting period, and compared to previous four quarters**



**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 1 April 2021 to 30 June 2021, there were 73 LOR declarations. Of these declarations, 43 were for forecast LOR conditions:

- 24 forecast LOR1 conditions were declared.
- 18 forecast LOR2 conditions were declared.
- One forecast LOR3 condition was declared.
- One forecast LOR1 condition was set by FUM.
- 16 forecast LOR2 conditions were set by FUM.

A total of 28 actual LOR1 conditions were declared during the reporting period:

- There were 19 observed as forecast LOR1 prior to being declared as actual, therefore not counted as a forecast declaration based on the declaration count principles outlined in Section 3.
- Nine were declared as actual LOR1 conditions without prior to being declared as forecast LOR1 conditions.

A total of two actual LOR2 conditions were declared during the reporting period. One of them was observed as a forecast LOR2 condition prior to being declared as an actual.

By comparison, seven LOR declarations were made in Quarter 1 2021 (two forecast LOR events and five actual LOR events) and one LOR declaration was made in Quarter 2 2020 (one forecast LOR1 event).

As there were 17 LOR declarations in the reporting period set by the FUM, the percentage of LOR conditions where the FUM set the reserve requirement was 23%. In Quarter 1 2021 the percentage was 0%, and it was 0% in Quarter 2 2020.

There were two actual LOR2 conditions and one forecast LOR3 condition during the current reporting period.

During the reporting period RERT services were activated on 25 May 2021 (Queensland)<sup>8</sup>.

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

Effective period	LOR1			LOR2	LOR3
<b>New South Wales (NSW)</b>					
19/04/2021	Forecast then Actual				
26/04/2021	Actual				
03/05/2021	Actual				
04/05/2021	Forecast				
17/05/2021	Forecast			Forecast	
18/05/2021	Forecast			Forecast	
19/05/2021	Actual	Actual	Forecast		
20/05/2021	Forecast then Actual				
21/05/2021	Forecast then Actual				

<sup>8</sup> RERT reporting can be found at <https://aemo.com.au/energy-systems/electricity/emergency-management/reliability-and-emergency-reserve-trader-rert/rert-reporting>.

Effective period	LOR1			LOR2		LOR3
25/05/2021	Forecast then Actual			Forecast		
29/05/2021	Forecast then Actual	Forecast then Actual	Forecast			
30/05/2021	Forecast then Actual			Forecast		
31/05/2021	Forecast	Forecast		Forecast	Forecast	
	then Actual					
1/06/2021	Forecast then Actual		Forecast then Actual	Forecast		
3/06/2021	Forecast then Actual	Forecast then Actual	Forecast then Actual	Forecast	Actual	
10/06/2021	Forecast then Actual			Forecast		
15/06/2021	Forecast					
16/06/2021	Forecast then Actual	Actual		Forecast		
18/06/2021	Forecast			Forecast		
21/06/2021	Forecast		Forecast			
22/06/2021	Forecast then Actual	Forecast		Forecast		
23/06/2021	Actual			Forecast		
28/06/2021	Forecast			Forecast	Forecast	
29/06/2021	Actual					
<b>Queensland (QLD)</b>						
25/05/2021	Forecast			Forecast		Forecast
				then Actual		
26/05/2021	Forecast then Actual			Forecast		
28/05/2021	Forecast					
31/05/2021	Forecast			Forecast		
03/06/2021	Forecast					
10/06/2021	Forecast then Actual			Forecast		
11/06/2021	Forecast					
14/06/2021	Forecast then Actual					
15/06/2021	Forecast	Forecast				

Effective period	LOR1	LOR2	LOR3
<b>South Australia (SA)</b>			
16/04/2021	Forecast		
29/04/2021	Forecast		
01/06/2021	Forecast		
<b>Victoria (VIC)</b>			
21/04/2021	Actual	Actual	
12/05/2021	Forecast		

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

One forecast LOR3 condition was declared.

There were 43 forecast LOR1 conditions declared; of these, of which 19 resulted in an actual LOR1 condition. These are counted as actual LOR1 conditions based on the declaration count principles outlined in Section 3.

There were 19 forecast LOR2 conditions declared; of these, one resulted in an actual LOR2 condition. This is counted as actual LOR2 condition based on the declaration count principles outlined in Section 3.

There were 24 forecast LOR1 conditions that did not develop into actual LOR1 conditions. There were 18 forecast LOR2 conditions that did not develop into actual LOR2 conditions. This happened due to either changes to the net import or market response following the issue of the forecast market notice. The market response generally took the form of increased available generation and TNSPs rescheduling planned transmission outages.

### 4.4 Number and cause of LOR declarations

As summarised in Table 1, a total of 73 LOR conditions were declared during the current reporting period: 43 forecast and 30 actual LOR conditions.

This is significantly higher than the seven LOR declarations recorded in the previous reporting period (1 January to 31 March 2021).

Quarter 2 2021 covered the later autumn months and first month of winter. The LOR declarations in this quarter are mainly due to short notice outages and unplanned power system events, including the sudden loss of generation availability and multiple unplanned transmission outages in Queensland on 25 May 2021, which significantly impacted available reserves.

There was one forecast LOR3 declaration (in Queensland on 25 May 2021) which was mainly due to decreased generation availability and increased forecast demand as permission was given to restore all load shed via UFLS. Actual load restoration proceeded below expected levels and a number of subsequent adjustments were made to the demand forecast, causing multiple revisions to declared LOR conditions<sup>9</sup>.

As presented in Table 3, there were four instances where actual LOR conditions occurred with no prior forecast, most other actual LOR conditions had some degree of anticipation and lead time for the market and TNSPs to respond.

<sup>9</sup> See AEMO's 25 May 2021 preliminary operating incident report, at [https://www.aemo.com.au/-/media/files/electricity/nem/market\\_notices\\_and\\_events/power\\_system\\_incident\\_reports/2021/preliminary-report-trip-of-multiple-generators-and-lines-in-queensland-and-associated-underfrequenc.pdf](https://www.aemo.com.au/-/media/files/electricity/nem/market_notices_and_events/power_system_incident_reports/2021/preliminary-report-trip-of-multiple-generators-and-lines-in-queensland-and-associated-underfrequenc.pdf). A further detailed report will be released by the end of the year.

# 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 Guidelines<sup>10</sup> for further information.

<b>Term</b>	<b>Definition</b>
<b>BBN</b>	Bayesian Belief Network <sup>11</sup>
<b>FUM</b>	Forecast Uncertainty Measure (the number of MW representing the level of forecasting uncertainty)
<b>Guidelines</b>	The Reserve Level Declaration Guidelines published by AEMO under clause 4.8.4A of the NER
<b>LCR</b>	Largest Credible Risk – the single largest credible risk in the region
<b>LCR2</b>	Largest Credible Risk 2 – the sum of the two largest credible risks in the region
<b>LOR1</b>	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).
<b>LOR2</b>	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).
<b>LOR3</b>	Lack of Reserve level 3. The threshold for an LOR3 condition is when the forecast reserve for a region is at or below zero.
<b>PASA</b>	Projected Assessment of System Adequacy <sup>12</sup>
<b>RERT</b>	Reliability and Emergency Reserve Trader <sup>13</sup>
<b>UFLS</b>	Under frequency load shedding

<sup>10</sup> 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](https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/power_system_ops/reserve-level-declaration-guidelines.pdf).

<sup>11</sup> More detail regarding Bayesian Belief Networks is available in the Appendix of AEMO's reserve level declaration guidelines document in the link above.

<sup>12</sup> 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>.

<sup>13</sup> See AEMO's Reliability and Emergency Reserve Trader (RERT) guidelines, at <https://aemo.com.au/en/energy-systems/electricity/emergency-management/reliability-and-emergency-reserve-trader-rert>.