

# NEM Event Directions Report 3 February 2023

June 2023





# Important notice

## Purpose

Where the Australian Energy Market Operator (AEMO) intervenes in the National Electricity Market (NEM) through the use of directions, AEMO must publish a report in accordance with National Electricity Rules (NER) clauses 4.8.9(f) and 3.13.6A(a). This report satisfies those NER obligations and is based on information available to AEMO as at 5 June 2023.

Unless otherwise indicated, terms in this report have the same meanings as those defined in the NER.

All references to time in this report are based on Australian Eastern Standard Time (AEST).

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## Abbreviations

Abbreviation	Expanded name
AEMO	Australian Energy Market Operator
CSENERGY	CS Energy Limited
MN	Market Notice
MW	megawatt/megawatts
NEM	National Electricity Market
NER	National Electricity Rules
RERT	Reliability and Emergency Reserve Trader
SCL	Stanwell Corporation Limited
TI	Trading Interval

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# Contents

1	Summary	4
2	Intervention assessment	4
2.1	The need for intervention	4
2.2	Assessment of market response and latest time to intervene	5
3	Intervention process	7
3.1	Market information	7
3.2	Adequacy of responses to AEMO inquiries	7
3.3	Participant ability to comply with the intervention	7
4	Dispatch and pricing outcomes	7
4.1	Changes to dispatch and pricing outcomes due to the directions	7
4.2	Direction costs	8
5	Conclusions and further actions	8

## Tables

Table 1	Summary of the Queensland directions on 3 February 2023	4
Table 2	Relevant market notices issued from 29 January 2023	6

# 1 Summary

Clause 4.8.9 of the National Electricity Rules (NER) allows AEMO to intervene in the market by issuing directions or clause 4.8.9 instructions, if AEMO is satisfied that it is necessary to maintain or re-establish the power system to a secure, satisfactory, or reliable operating state. Section 116 of the National Electricity Law allows AEMO to issue directions to take certain action if AEMO considers that it is necessary to maintain power system security or for reasons of public safety.

After it issues a direction, AEMO is required to publish a report outlining the matters specified in clause 3.13.6A of the NER.

On 3 February 2023, AEMO issued three directions relating to the same event to Queensland Market Participants to maintain the power system in a reliable operating state. These directions are summarised in Table 1.

**Table 1 Summary of the Queensland directions on 3 February 2023**

Directed plant	Directed Participant	Event No.	Issue time	Direction	Cancellation time
Stanwell Power Station	Stanwell Corporation Ltd (SCL)	1	1300 hrs, 3 February 2023	Follow dispatch instructions subject to the temporary release limits as specified in Schedule 3 - Table 3 Queensland Environmental Authority EPPR00708913 <sup>A</sup> .	1800 hrs, 3 February 2023
Tarong Power Station	Stanwell Corporation Ltd (SCL)	1	1300 hrs, 3 February 2023	Follow dispatch instructions subject to the temporary release limits as specified in Table 3, Queensland Environmental Authority EPPR00971913 <sup>B</sup> .	1800 hrs, 3 February 2023
Callide Unit B1	CS Energy Limited (CSENERGY)	1	1245 hrs, 3 February 2023	Follow dispatch instructions subject to the temporary release limits as specified in Schedule 2G Table 7, Queensland Environmental Authority EPPR00536313 <sup>C</sup> .	2200 hrs, 3 February 2023

A. Environmental authority EPPR00708913, Queensland Government, 7 May 2020.

B. Environmental authority EPPR00971913, Queensland Government, 15 December 2021.


C. Environmental authority EPPR00536313, Queensland Government, 3 May 2018.

## 2 Intervention assessment

### 2.1 The need for intervention

On 3 February 2023, Queensland experienced high temperatures, extreme humidity and high operational demands. These conditions, coupled with outages of four large generating units in Queensland and limits on northerly flows on the Queensland – New South Wales Interconnector (QNI), resulted in consistent forecasts of low afternoon reserves in Queensland. Insufficient market response was provided to alleviate forecast reserve shortfalls.

Further, three Queensland coal-fired power stations, despite bidding their maximum available capacity, were expecting their output to be limited by authorised release limits set in their Environmental Authorities issued under



Queensland environmental regulations. At two of those power stations, any output reductions necessary to remain within the release limits are carried out through an automated process.

In these circumstances, AEMO managed the reserve shortfalls by taking the following steps:

- From Trading Interval (TI) ending 1705 hrs to TI ending 1930 hrs on 3 February 2023, AEMO activated Reliability and Emergency Reserve Trader (RERT) contracts in Queensland. The RERT activation affected dispatch quantities for intervention pricing purposes (advised by market notice MN 105586 issued at 1531 hrs).
- AEMO issued two directions to Stanwell Corporation Ltd (SCL) effective from TI ending 1300 hrs to TI ending 1800 hrs on 3 February. The directions required SCL to follow dispatch instructions at Tarong and Stanwell power stations, subject to the temporary release limits specified in the respective Environmental Authorities.
- AEMO issued a direction to CS Energy Limited (CSENERGY) effective from TI ending 1245 hrs to TI ending 2200 hrs on 3 February. The direction required CSENERGY to follow dispatch instructions on Callide Unit B1, subject to the temporary release limits specified in CSENERGY's Environmental Authority for Callide Unit B1. CSENERGY was subsequently able to increase the maximum capacity bid into the market for Callide Unit B1.

Under the Environmental Authorities, temporary release limits relating to particulate emissions, nitrogen oxides, or release of process waters apply during a direction by AEMO.

The need for the directions was to permit the application of the temporary release limits for the relevant power stations, minimising any reductions in their generation capacity, to maintain a reliable operating state in Queensland during actual and forecast lack of reserve (LOR) conditions. A reduction in generator output would have resulted in a deterioration of the LOR conditions in Queensland.

This report is limited to the directions to CSENERGY and SCL (second and third bullet points above). Information about the RERT contract activation is provided in a separate report<sup>1</sup>.

## 2.2 Assessment of market response and latest time to intervene

Under NER clause 4.8.5A(a) and (c), AEMO must notify the market of any foreseeable circumstances that may require intervention (through direction or RERT activation), and the latest time for market response before AEMO would need to intervene.

AEMO issued several market notices relating to the LOR conditions in Queensland on 3 February 2023. LOR1 conditions for the early evening of that day were consistently forecast from 29 January 2023 (market notice MN 105351 issued at 1455 hrs), and regularly updated. LOR2 conditions were also forecast on four occasions.

For these conditions, the latest time to intervene was based on lead times to activate RERT contracts and estimated as 1430 hrs on 3 February 2023. No separate time to intervene was determined in respect of the directions given to SCL and CSENERGY, as those directions became necessary when the environmental limits relating to specific power stations threatened to reduce their capacity. The market notices relating to conditions on 3 February 2023 (issued from 29 January) are listed in Table 2.

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<sup>1</sup> AEMO, RERT Reporting, <https://aemo.com.au/energy-systems/electricity/emergency-management/reliability-and-emergency-reserve-trader-rert/rert-reporting>.

**Table 2 Relevant market notices issued from 29 January 2023**

Notice issued	Summary
MN 105351 29 Jan 2023 at 1455 hrs	Forecast LOR1 declared for 3 Feb 2023 from 1730 to 2030 hrs.
MN 105386 30 Jan 2023 at 1506 hrs	Updated forecast LOR1 for 3 Feb 2023 from 1630 to 2130 hrs.
MN 105397 30 Jan 2023 at 2344 hrs	Forecast LOR2 declared for 3 Feb 2023 from 1730 to 2000 hrs. Also refer to MN 105398, 103599, 105408 and 105413 for updates issued on 31 Jan 2023.
MN 105413 31 Jan 2023 at 1542 hrs	Cancellation of Forecast LOR2 at 1500 hrs.
MN 105410 31 Jan 2023 at 1458 hrs	Updated forecast LOR1 for 3 Feb 2023 from 1530 to 1700 hrs and from 2030 to 2200 hrs.
MN 105417 31 Jan 2023 at 1730 hrs	Forecast LOR2 declared for 3 Feb 2023 from 1630 to 1700 hrs. Also refer to MN 105428, 105433, 105434, 105436 for updates issued between 31 Jan and 1 Feb 2023.
MN 105436 1 Feb 2023 at 1040 hrs	Cancellation of forecast LOR2 at 1000 hrs.
MN 105446 01 Feb 2023 at 1503 hrs	Updated forecast LOR1 for 3 Feb 2023 from 1430 to 1500 hrs, 1700 to 1830 hrs and 2100 to 2130 hrs.
MN 105461 01 Feb 2023 at 1937 hrs	Forecast LOR2 declared for 3 Feb 2023 from 1430 to 1500 hrs. Also refer to MN 105467 for update issued on 1 Feb 2023.
MN 105480 02 Feb 2023 at 0804 hrs	Cancellation of forecast LOR2 at 0700 hrs.
MN 105486 02 Feb 2023 at 1301 hrs	Forecast LOR1 declared for 3 Feb 2023 from 1600 to 1700 hrs, 1830 to 1900 hrs, 2000 to 2100 hrs and 2130 to 2200 hrs.
MN 105484 02 Feb 2023 at 1302 hrs	Forecast LOR2 declared for 3 Feb 2023 from 1700 hrs to 1830 hrs, 1900 hrs to 2000 hrs and 2100 hrs to 2130 hrs. Also refer to MN 105536, 105540, 105544, 105599, 105576 for updates issued between 2 Feb and 3 Feb 2023.
MN 105537 02 Feb 2023 at 1929 hrs	Updated forecast LOR1 for 3 Feb 2023 from 1600 to 1700 hrs, 2030 to 2100 hrs and 2130 to 2200 hrs.
MN 105539 02 Feb 2023 at 2102 hrs	Updated forecast LOR1 for 3 Feb 2023 from 1600 to 1700 hrs, 1800 to 1930 hrs, 2030 to 2100 hrs and 2130 to 2200 hrs.
MN 105545 03 Feb 2023 at 0029 hrs	Updated forecast LOR1 for 3 Feb 2023 from 1600 to 1700 hrs, 2030 to 2100 hrs and 2130 to 2200 hrs.
MN 105560 03 Feb 2023 at 1026 hrs	Updated forecast LOR1 for 3 Feb 2023 from 1600 to 1700 hrs and 1830 to 2130 hrs.
MN 105577 03 Feb 2023 at 1238 hrs	Updated forecast LOR1 for 3 Feb 2023 from 1600 to 1700 hrs and 1900 to 2130 hrs.
MN 105591 03 Feb 2023 at 1620 hrs	Actual LOR1 declared in Queensland region from 1600 hrs, seeking immediate market response.
MN 105593 03 Feb 2023 at 1647 hrs	Cancellation of forecast LOR2 at 1645 hrs.
MN 105599 03 Feb 2023 at 1752 hrs	Cancellation of actual LOR1 at 1745 hrs.
MN 105602 03 Feb 2023 at 1821 hrs	Actual LOR1 declared in Queensland region from 1815 hrs, seeking immediate market response.
MN 105608 03 Feb 2023 at 2106 hrs	Cancellation of actual LOR1 at 2100 hrs.

## 3 Intervention process

### 3.1 Market information

AEMO considers that it followed applicable processes under NER rule 4.8 for the management of the directions on 3 February 2023. AEMO provided individual notices to directed participants as required by the NER.

In addition to the minimum requirements of the rules, AEMO's procedure<sup>2</sup> says a broader market notice will be published advising that AEMO has issued a direction. In view of fact that RERT had been dispatched in parallel, and that this direction did not require any constraints or intervention pricing, AEMO did not issue additional market notices in relation to the directions referred to in this report.

### 3.2 Adequacy of responses to AEMO inquiries

NER clause 4.8.5A(d) permits AEMO to request information from Scheduled Network Service Providers, Scheduled Generators, Semi-Scheduled Generators, and Market Customers. AEMO is satisfied with the timeliness, adequacy, and effectiveness of all responses to its requests for information prior to issuing the directions on 3 February 2023.

### 3.3 Participant ability to comply with the intervention

NER clause 4.8.9(d) requires that a Registered Participant must immediately notify AEMO of its inability to comply, or intention not to comply, with a direction or clause 4.8.9 instruction. None of the directed participants listed in Table 1 notified AEMO of an inability to comply with a relevant direction, and AEMO is not aware of any failure to comply.

## 4 Dispatch and pricing outcomes


### 4.1 Changes to dispatch and pricing outcomes due to the directions

The directions resulted in available generation at Callide Unit B1 increasing by up to about 60 megawatts (MW), compared with the levels that would otherwise have been available had the temporary environmental limits not applied. AEMO has been advised that releases at Tarong and Stanwell power stations did not exceed the standing authorised limits, meaning the direction did not result in a change to dispatch at these stations.

In the circumstances, AEMO determined not to apply intervention pricing in relation to the directions. The application of clause 3.9.3 of the NER in this case was not straightforward, given the direction did allow for the bidding and dispatch of some additional energy from Callide Unit B1. However, the purpose of the direction was to

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<sup>2</sup> AEMO. Power system operating procedure SO\_OP 3707, "Procedures For Issue Of Directions And Clause 4.8.9 Instructions", 6 September 2019, [https://aemo.com.au/-/media/files/electricity/nem/security\\_and\\_reliability/power\\_system\\_ops/procedures/so\\_op\\_3707-procedures-for-issue-of-directions-and-clause-4-8-9-instructions.pdf?la=en](https://aemo.com.au/-/media/files/electricity/nem/security_and_reliability/power_system_ops/procedures/so_op_3707-procedures-for-issue-of-directions-and-clause-4-8-9-instructions.pdf?la=en).



enable the temporary relaxation of restrictions under an external regulatory framework, where the application of those restrictions could have contributed to the power system in Queensland not being in a reliable operating state. AEMO notes that:

- The directions were necessary to trigger the application of the temporary release limits under the Environmental Authorities, a matter that was not within the control of the directed participants.
- The application of the temporary release limits enabled CSENERGY to increase its energy market bid for Callide Unit B1 without direction.
- It would not have been possible to determine an additional quantity of energy that could have been directed at Tarong and Stanwell without actually reducing generation to estimate the impact on the standing authorised release limits. Both Stanwell and Tarong were bid into the market at their maximum available capacity in any event.
- The intervention pricing framework in the National Electricity Rules does not contemplate these circumstances. AEMO notes that processes to trigger equivalent temporary limits in some other jurisdictions are linked to reserve declarations rather than AEMO directions.

## 4.2 Direction costs

No compensation is payable as a result of this direction.

# 5 Conclusions and further actions

On 3 February 2023, AEMO issued three directions to Queensland Market Participants to maintain the power system in a reliable operating state, in response to consistent forecasts of low reserves in the region.

AEMO is satisfied that applicable procedures and processes were followed in assessing the need for intervention, determining the latest time to intervene, enacting and managing the intervention and seeking market response from all generators capable of meeting the system strength requirements. AEMO is reviewing its internal processes regarding issuing of market notices.

AEMO is also satisfied with the timeliness and adequacy of participant responses and communication throughout.

AEMO did not apply intervention pricing or compensate participants, for the reasons discussed in Section 4.1.