

PROCEDURES FOR ISSUE OF DIRECTIONS AND CLAUSE 4.8.9 INSTRUCTIONS

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APPROVED BY: Michael Gatt

TITLE: Chief Operations Officer

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VERSION RELEASE HISTORY

Version	Effective Date	Summary of Changes
24	4 July 2024	Changes to reflect additional requirements for directions Market Notice information under clause 4.8.9(k).
23	3 June 2024	Minor and administrative changes to reflect National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No.13 and National Electricity Amendment (Implementing integrated energy storage systems) Rule 2023 No.2
22	24 October 2021	Added <i>ancillary service load</i> to the definition of <i>scheduled plant</i> to reflect the wholesale demand response mechanism Rule change.
21	12 March 2021	Removed the obligation on AEMO to counteract and minimise the effect on interconnector flows during an intervention. This change is to reflect the intervention mechanism Rule change.
20	6 September 2019	Addition of rebidding requirements and factors relevant to cost minimization, complete review, redraft and renumbering. New template.
19	11 September 2014	New template
18	16 November 2011	Clarified AEMO actions in section 3, relocated section on RRN to section 5.1, clarification to section 9
17	5 July 2011	Complete review
16	1 July 2009	Change to AEMO document
earlier		NEMMCO documents

CONTENTS1.	INTRODUCTION
	4
1.1. Purpose and scope	4
1.2. Definitions and interpretation	4
1.3. Related documents	4
2. BACKGROUND	5
2.1. Meaning of directions and clause 4.8.9 instructions	5
2.2. NER principles	5
2.3. Reliability Panel guidelines	6
3. BEFORE ISSUING A DIRECTION	6
4. ISSUE OF DIRECTIONS AND CLAUSE 4.8.9 INSTRUCTIONS	7
4.1. Verbal, participant and market notices	7
4.2. Content of directions and clause 4.8.9 instructions	7
4.3. Revoking directions	8
5. IMPLEMENTATION OF DIRECTIONS	8
6. CONTENT OF MARKET NOTICES	8
6.1. Direction summary	8
6.2. Service or need provided by the direction or instruction (where reasonably practicable to identify)	9
6.3. Circumstances necessitating the direction	9
7. COMPLIANCE REQUIREMENTS	10



1. INTRODUCTION

1.1. Purpose and scope

These are the procedures for the issue of *directions* made under clause 4.8.9(b) of the National Electricity Rules (NER) (**Procedures**).

These Procedures have effect only for the purposes set out in the NER. The NER and the National Electricity Law (NEL) prevail over these Procedures to the extent of any inconsistency.

1.2. Definitions and interpretation

1.2.1. Glossary

Terms defined in the NEL and the NER have the same meanings in these Procedures unless otherwise specified in this clause.

Terms defined in the NER are intended to be identified in these Procedures by italicising them, but failure to italicise a defined term does not affect its meaning.

The words, phrases and abbreviations in the table below have the meanings set out opposite them when used in these Procedures.

Term	Meaning
AEMO	Australian Energy Market Operator Limited
Direction Period	The period starting at the time from which <i>energy</i> , an <i>ancillary service</i> or another service is to be provided under a <i>direction</i> (as specified in that <i>direction</i>), and ending at either: (a) the end time specified in the <i>direction</i> , if applicable; (b) otherwise, the time with effect from which AEMO revokes the <i>direction</i> .
NEL	National Electricity Law
NER	National Electricity Rules
Requirement	A requirement for <i>energy</i> , <i>ancillary services</i> or other services that is to be met by AEMO issuing a <i>direction</i>
RP Guidelines	Guidelines for management of electricity supply shortfall events - Equitable Load Shedding Arrangements, issued by the <i>Reliability Panel</i> in December 2009
TNSP	<i>Transmission Network Service Provider</i>

1.2.2. Interpretation

These Procedures are subject to the principles of interpretation set out in Schedule 2 of the NEL.

1.3. Related documents

Reference	Title
N/A	Intervention Pricing Methodology (NER clause 3.9.3(e))
SO_OP_3715	Power System Security Guidelines
SO_OP_3717	Procedure for the Dispatch and Activation of Reserve Contracts
<i>AEMC Reliability Panel</i>	Guidelines for management of electricity supply shortfall events - Equitable Load Shedding Arrangements, December 2009



2. BACKGROUND

2.1. Meaning of directions and clause 4.8.9 instructions

- (a) Section 116 of the NEL and clause 4.8.9 of the NER establish that AEMO may, where it considers it is necessary, direct a *Registered Participant* (or authorise another person to direct a *Registered Participant*) to take relevant actions to maintain or restore the security or reliability of the *power system*, or for reasons of public safety.
- (b) The distinction between a *direction* and a *clause 4.8.9 instruction* is set out in clause 4.8.9(a1) of the NER. Either can be a 'direction' in the broader sense used in the NEL. However, for NER purposes different terms are used depending on whether the direction is for:
 - (i) action relating to *scheduled plant* (comprising *scheduled generating units*, *semi-scheduled generating units*, *scheduled load*, *ancillary service load*, or *scheduled network services*) or *market generating units* - in which case it is a *direction*; or
 - (ii) any other action (including in relation to *transmission or distribution systems* and *non-scheduled loads*) - in which case it is a *clause 4.8.9 instruction*. Directions for *load shedding* will generally be *clause 4.8.9 instructions*.
- (c) A *direction* is an *AEMO intervention event* for the purposes of the NER, but a *clause 4.8.9 instruction* is not. The NER provisions applicable to *directions* (but not *clause 4.8.9 instructions*) include the following:
 - (i) clause 4.8.9(b) (requirement to prepare these Procedures);
 - (ii) clause 4.8.5A and 4.8.5B (notification and determination of latest time to intervene);
 - (iii) clause 3.9.3 (intervention pricing); and
 - (iv) rule 3.12 and clauses 3.15.7, 3.15.7A, 3.15.7B, and 3.15.8 (payment and settlement of compensation for *Affected Participants*, *Market Customers* and *Directed Participants*).
- (d) For convenience, these Procedures include some matters relating to the issue of *clause 4.8.9 instructions*, as well as *directions*.

2.2. NER principles

Clause 4.8.9(b) of the NER requires AEMO to develop procedures for the issue of *directions* that reflect the following principles:

- "(1) AEMO must use its reasonable endeavours to minimise any cost related to *directions* and compensation to *Affected Participants* and *Market Customers* pursuant to clause 3.12.2 and compensation to *Directed Participants* pursuant to clauses 3.15.7 and 3.15.7A;
- (2) a *direction* should be revoked as soon as AEMO determines that the *direction* is no longer required;
- (3) AEMO must take into account any applicable guidelines issued by the *Reliability Panel*;
- (4) AEMO must observe its obligations under clause 4.3.2 concerning *sensitive loads*;
- (5) AEMO must expressly notify a *Directed Participant* that AEMO's requirement or that of another person authorised by AEMO pursuant to clause 4.8.9(a) is a *direction*."



2.3. Reliability Panel guidelines

- (a) Clause 4.8.9(b)(3) of the NER requires AEMO, when issuing *directions*, to take into account any applicable *Reliability Panel* guidelines. As at the effective date of these Procedures, there were no such guidelines applicable to the issue of *directions*.
- (b) The RP Guidelines apply for the purposes of clause 4.8.9(i) of the NER where AEMO issues *clause 4.8.9 instructions* requiring *load shedding across interconnected regions*. The RP Guidelines form part of the *power system security standards*.
- (c) AEMO must use reasonable endeavours to implement *load shedding* in an equitable manner as specified in the RP Guidelines, taking into account the *power transfer capability* of the relevant *networks*.

3. BEFORE ISSUING A DIRECTION

- (a) Where AEMO considers that it might have to intervene in the *market* by issuing a *direction*:
 - (i) clause 4.8.5A and clause 4.8.5B of the NER provide for processes under which AEMO notifies and updates the *market* of the circumstances that may require a *direction*, and determines the latest time at which AEMO would need to issue a *direction* to address a Requirement; and
 - (ii) AEMO will issue a *direction* if, by the latest time to intervene, the Requirement still exists and is not expected to be fully met by a *market* response or by action taken under any available *reserve contract*.
- (b) To determine the latest time to intervene, AEMO will first identify the *scheduled plant* or *market generating units* that could reasonably meet the Requirement when it is expected to arise.
- (c) AEMO will then contact the *Registered Participants* whose relevant *plant* has been identified by telephone to request information under clause 4.8.5A(d) and (e) of the NER, or to confirm information previously provided to AEMO. This information may include (but is not limited to):
 - (i) technical availability of the *plant* during the possible Direction Period;
 - (ii) lead time required for the *plant* to deliver a response sufficient to address the Requirement;
 - (iii) minimum or maximum output and run times;
 - (iv) estimated costs of the *Registered Participant* in complying with a relevant *direction*, if issued.
- (d) AEMO will use this information, and any other relevant information available to AEMO, to determine which *Registered Participant(s)* should be the subject of a *direction*. As far as reasonably practicable in all the circumstances, this determination should seek to:
 - (i) minimise the costs arising from the likely compensation to *Directed Participants*, having regard to (without limitation and where relevant):
 - (A) the quantity of *energy* or *ancillary services* for which compensation would be payable to an identified *Registered Participant* under clause 3.15.7 of the NER; and
 - (B) the costs likely to be incurred by an identified *Registered Participant* in complying with a relevant *direction*;



- (ii) have the least impact on the ability to maintain security of *supply to sensitive loads*.
- (e) AEMO's identification of one or more *Registered Participants* under paragraph (d) will determine the latest time by which it must issue a *direction*. This will usually depend on the time at which the relevant participant(s) need to initiate action to deliver sufficient response by the time the Requirement arises.

4. ISSUE OF DIRECTIONS AND CLAUSE 4.8.9 INSTRUCTIONS

4.1. Verbal, participant and market notices

- (a) Unless telephone communication is not reasonably possible, AEMO control room staff will issue a verbal *direction* or *clause 4.8.9 instruction* by telephone to the designated 24-hour contact for the relevant *Registered Participant*. The AEMO operator will specify that the *Registered Participant* is being issued with a *direction* or *clause 4.8.9 instruction*, as applicable.
- (b) AEMO will confirm a verbal *clause 4.8.9 instruction* by issuing a written participant notice to the relevant *Registered Participant*. This is only a confirmation and *Registered Participants* are expected to act on the verbal *clause 4.8.9 instruction* within applicable timeframes. The recipient should immediately contact the AEMO control room operator if it considers that a written confirmation may be inconsistent with the verbal *clause 4.8.9 instruction*.
- (c) If a *direction* or *clause 4.8.9 instruction* cannot be given by telephone, AEMO may issue a written participant notice to the relevant *Registered Participant*. The notice will state that the *Registered Participant* is being issued with a *direction* or *clause 4.8.9 instruction*, as applicable.
- (d) AEMO will publish a Market Notice advising that AEMO has issued a *direction* or *clause 4.8.9 instruction*. In the case of a *direction*, in accordance with clause 4.8.9(k) of the NER, this Market Notice also serves as a confirmation of the verbal *direction* issued to the participant. This is only a confirmation and *Registered Participants* are expected to act on the verbal *direction* within applicable timeframes. The recipient should immediately contact the AEMO control room operator if it considers that a written confirmation may be inconsistent with the verbal *direction*.
- (e) In the case of a *direction*, AEMO will also advise the market about the application of any intervention pricing for the purposes of clause 3.9.3 of the NER.

4.2. Content of directions and clause 4.8.9 instructions

- (a) A *direction* will specify the quantity of *energy, ancillary service* or other service to be delivered:
 - (i) by specified *plant* or at a specified point;
 - (ii) at a specified time; and
 - (iii) for a specified period or until further notice.
- (b) *Clause 4.8.9 instructions* for *load shedding* will be issued to the relevant TNSP(s) in accordance with the applicable jurisdictional load shedding procedures made under clause 4.3.2(h)(1) of the NER, and AEMO's Power System Security Guidelines (SO_OP_3715).
- (c) A *clause 4.8.9 instruction* to a TNSP to shed *load* will be consistent with the Sensitive Loads and Priority Load Shedding Schedule for the applicable *region*.



4.3. Revoking directions

- (a) AEMO will revoke a *direction* from the time when it appears to AEMO that the relevant Requirement no longer exists, or will be met by the *market* without the need for the directed action.
- (b) AEMO will revoke the *direction* by issuing a market notice informing the *Directed Participant* of the revocation.
- (c) AEMO will publish a market notice when all directions arising from the circumstances giving rise to the *AEMO intervention event* have been revoked.

5. IMPLEMENTATION OF DIRECTIONS

- (a) Where a *direction* relates to *scheduled plant*, the *Directed Participant* must submit a *dispatch offer, dispatch bid, ancillary service offer or rebid* under which its maximum available capacity for *energy* or *ancillary services* (as applicable) is equal to the quantity specified in the *direction* at all times in the Direction Period.
- (b) If necessary, AEMO will apply constraint equations in *central dispatch* to give effect to the *direction* and address any technical limitations of *scheduled plant*.
- (c) AEMO may give additional instructions to *Registered Participants* in respect of *scheduled plant* as contemplated in clauses 4.9.2 and 4.9.2A of the NER.
- (d) If a *Directed Participant* makes a decision to offer *energy* or *ancillary services* which are subject to a *direction* to the *market* under rule 3.8 of the NER during the Direction Period:
 - (i) the *Directed Participant* must promptly notify AEMO of the time and quantity of *energy* or *ancillary services* that it intends to offer by telephone to the AEMO control room;
 - (ii) AEMO must revoke or amend the *direction* as soon as reasonably practicable to reflect the notified intention; and
 - (iii) the *Directed Participant* may then submit a *dispatch offer, dispatch bid, ancillary service offer or rebid* (as applicable) in accordance with rule 3.8 reflecting its intention.

6. CONTENT OF MARKET NOTICES

In accordance with clause 4.8.9(k) of the NER, Market Notices published advising that AEMO has issued a *direction* will include the follow details:

6.1. Direction summary

- (a) Directed participant – including participant name and unit Dispatchable Unit Identifier (DUID).
- (b) Type – For example, generating unit, bi-directional unit, load, synchronous condenser.
- (c) Required actions – For example, synchronise and follow dispatch targets, remain synchronised and follow dispatch targets, synchronise and operate as a synchronous condenser or energise and follow dispatch targets.

6.2. Service or need provided by the direction (where reasonably practicable to identify)

Examples of services necessitating a *direction* and their associated descriptions are included below. For further details refer the published Power System Requirements document¹.

- (a) Energy – to increase or decrease active energy output or consumption (MW).
- (b) Reserve – to make capacity available or increase capacity availability.
- (c) Frequency Control – to make FCAS available or increase FCAS availability or to maintain a level of energy storage to allow the provision of FCAS.
- (d) Manual Frequency Control – to turn off Automatic Generation Control (AGC) and manually control power system frequency.
- (e) Voltage Control – to provide voltage support or control to the *power system*.
- (f) System Strength² – to provide system strength services..
- (g) System Restoration – to provide Black Start services.
- (h) Rate of Change of Frequency Control – to provide Rate of Change of Frequency Control services

6.3. Circumstances necessitating the direction

Examples of common circumstances necessitating a *direction* and their associated descriptions are included below:

- (a) Overload – Where AEMO has identified that current flows on one or more *transmission lines* or other *plant* forming part of or impacting the *power system* are above their ratings or will be above their ratings after a *credible contingency event*.
- (b) Voltage – Where AEMO has identified that the *voltage* magnitudes of energised transmission elements are outside their relevant limits or will be outside their relevant limits after a *credible contingency event*.
- (c) System Strength – Where AEMO has identified or forecast that a region of the NEM has insufficient System Strength.
- (d) Stability – Where AEMO has identified that the *power system* is not stable in accordance with the requirements of clause S5.1.8 of Schedule 5.1 of the NER or will become unstable after a *credible contingency event*.
- (e) Reliability – Where AEMO has identified that intervention is required to maintain the *reliability standard*³. As an example, where AEMO has identified a forecast or actual Lack Of Reserve (LOR) 2 or LOR3 condition.

¹ Found here – https://www.aemo.com.au/-/media/files/electricity/nem/security_and_reliability/power-system-requirements.pdf?la=en&hash=04F4669E6663B1763086B291B463C0A5

² For more information on System Strength please see – <https://aemo.com.au/-/media/files/electricity/nem/system-strength-explained.pdf>

³ For full details of the *reliability standard* please see – https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2023/reliability-forecasting-guidelines-and-methodology-consultation/final/reliability-standard-implementation-guidelines.pdf?la=en



- (f) Frequency Control – Where AEMO has identified that intervention is required to maintain the Frequency Operating Standard.

7. COMPLIANCE REQUIREMENTS

The obligations of *Registered Participants* to comply with *directions* and *clause 4.8.9 instructions* are set out in section 118 of the NEL and in clauses 4.8.9 and 4.8.9A of the NER. *Registered Participants* are expected to be familiar with these obligations and to immediately notify AEMO of any inability to comply with a *direction* or *clause 4.8.9 instruction*.