Procedure for Submitting Recall Information of Scheduled Production Units and Network Services

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Current version release details

Version	Effective date	Summary of changes
3.0	3 June 2024	Updated the document template. Updated related documents' location. Changes to reflect the National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No.13 and Rule 2023 No. 2 and incorporate references to production units and network services.

Note: There is a full version history at the end of this document.

1. Introduction

1.1. Purpose and scope

These Procedures for Submitting Recall Information of Scheduled Production Units and Network Services (Procedures) form part of the power system operating procedures made under NER clause 4.10.1

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

When there are foreseeable circumstances which may require *AEMO* to intervene in the NEM, *AEMO* may initiate contact with *Market Participants* to seek details of any *scheduled production unit or network service* capacity that can be recalled and the associated recall time. This is necessary for *AEMO* to determine a latest time to intervene in the absence of a market response, for the purposes of NER clause 4.8.5A.

It is important for *AEMO* to obtain this information efficiently and in a quality assured manner within operational timeframes to provide an integrated picture to inform *AEMO*'s operational decisions.

This Procedure explains how *Market Participants* are to submit information to *AEMO* for the purposes of NER clause 4.8.5A.

1.2. Definitions and interpretation

1.2.1. Glossary

Terms defined in the National Electricity Law 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.

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

Term	Definition
DUID	Dispatchable Unit Identifier
EMMS	Electricity Market Management System
MW	megawatt
NEMDE	National Electricity Market Dispatch Engine
NEM	National Electricity Market
NER or Rules	National Electricity Rules
PASA	*Projected Assessment of System Adequacy*
PD PASA	*PASA* in the *pre-dispatch* timeframe
ST PASA	*Short term PASA*

1.2.2. Interpretation

The following principles of interpretation apply to these Procedures unless otherwise expressly indicated:

(a) These Procedures are subject to the principles of interpretation set out in Schedule 2 of the National Electricity Law.

1.3. Related documents

Reference	Title	Location
SO_OP_3703	Short term reserve management	https://aemo.com.au/-/media/files/electricity/nem/security_and_reliability/power_system_ops/procedures/so_op_3703-short-term-reserve-management.pdf?la=en
	Guide to *Generator* Recall Plans	http://www.aemo.com.au/-/media/Files/Electricity/NEM/IT-Systems-and-Change/2018/Guide-to-Generator-Recall-Plans.pdf

2. Background

Recent experience has shown that obtaining recall information from *Market Participants* manually in situations where an *AEMO intervention event* is envisaged carries risks of delays and miscommunication. *AEMO* has therefore developed a more robust system for communicating this information with the following basic features:

- Entry of recall information by *Market Participants* through a web-based interface similar to that used currently by *Market Participants* for other applications or using *Market Participants'* own systems that would communicate with *AEMO* systems.
- Transfer of the data to a central *AEMO* database from which views and reports to assist in *AEMO* operational decision making can be sourced.
- Reports and/or notifications on the submitted recall information, for use by *AEMO* Operations staff.

This Procedure provides guidance on the triggers for *Market Participants* to submit recall information, how *Market Participants* should submit recall information and how *AEMO* interprets and uses that recall information.

For the purposes of this Procedure:

- A full or partial *outage* refers only to situations where the capacity of a *scheduled production unit or network service* to generate MWs can be increased above the currently indicated *available capacity* in response to a *direction* from *AEMO*.
- Any additional MW quantities specified as available for recall should be based upon, in the short term, forecast ambient conditions. Any energy limitations that might limit use of this additional capacity should be noted in the comments associated with the entry for the *outage*.

The information provided under this Procedure is intended as preliminary only to assist *AEMO* in assessing alternative strategies and the likely latest time to intervene. Further detail will be sought from relevant *Market Participants* before any intervention decision is made.

3. Process overview

3.1. Declaration of the period and Region/s where Market Participant recall information will be required

Where *AEMO* foresees that heightened risks to *power system security* or reliability of *supply* may require *AEMO* to intervene in the *market*, *AEMO* will publish a market notice under NER clause 4.8.5A(a) (this includes forecast LOR2 or LOR3 notices). This notice is not a declaration of an *AEMO intervention event*, but of the forecast circumstances that might require *AEMO* to intervene. The market notice would include:

- the *region(s)* in which the relevant circumstances are forecast;
- the nature of the circumstances under which *AEMO* may need to intervene (for example, that there is an LOR2 or LOR3 forecast); and
- the date and times those circumstances are currently forecast to arise.

AEMO is then required under NER clause 4.8.5A(c) to determine the latest time to intervene. To support this decision *AEMO* may request *Market Participants* in the relevant *region(s)* [1] to provide information under NER clause 4.8.5(d). The information requested is generally, in relation to the identified period in the market notice:

- the information set out in clause 4.8.5A(e)(1) and (2); and
- for each full or partial plant *outage* planned or currently underway in that period to specify the expected time(s) to significantly increase capacity and the level(s) to which it could be increased if a *direction* from *AEMO* to do so were to be issued after the *outage* had commenced.

3.2. Provision of recall information by Market Participants

After sending out a market notice of foreseeable circumstances that may require an *AEMO intervention event*, and only if it is required in order to estimate the latest time to intervene, *AEMO* may issue a request for *Market Participants* to provide the information described in section 3.1 using a special market notice type – "Recall Gen Capacity". It will request that this information:

- Be provided by [xxxx] hrs on [zzzz] via the *outage* recall communication system in accordance with the procedure for its use.
- Be subsequently updated via this same system as soon as practicable after a relevant *Market Participant* becomes aware that that the required information has materially altered due to changed circumstances or for other reasons.

AEMO may activate this process in a *region* for periods where AEMO may be required to implement an *AEMO intervention event*, for example if ST PASA or PD PASA is forecasting that the reserve will reach the LOR2 or LOR3 level. The decision to activate this process under these circumstances will be based on several factors including (in the case of an LOR2 or LOR3 conditions):

- The length and severity of the LOR2 or LOR3 condition.

[1] Relevant regions being regions where increased supply could contribute to addressing the particular issue.

- Weather conditions forecast for the relevant period.
- Amount of *scheduled production unit or network service* availability information already available to AEMO at that time.

Note that AEMO may activate this process for a region where there is no LOR condition identified if it believes that additional generation from this region can assist in alleviating circumstances in another region that may require *AEMO* to implement an *AEMO intervention event,* such as an LOR condition in another region).

Once *AEMO* has published the requirement for *outage* recall information for *scheduled production unit or network service*, *Market Participants* must use reasonable endeavours to provide the recall information in the time specified by AEMO.

If a *Market Participant* is not able to enter the information due to data communication issues, it should promptly notify the *AEMO* Control Room by telephone and provide the required *outage* recall information verbally.

This process replaces the manual collection of information by *AEMO* previously undertaken under NER clause 4.8.5A(d) and (e).

3.3. Guidelines for Market Participants to provide recall information

A web-based interface to enter recall information has been established for *Market Participants* to provide recall information.

The data provided is confidential and the system will have appropriate measures, as used for other systems, to protect the confidential data.

The system supports multiple users from a single *Market Participant*. The *Market Participant* has the ability to review the current data provided by it to *AEMO* by filtering on a combination of:

- power station or scheduled *market network service*;
- recall plan identifier;
- date range;
- all entries related to a particular *outage* programme as nominated by the *Market Participant*.

The interface has been designed to minimise unnecessary entries by the *Market Participant*. For instance:

- The *Market Participant* is able to specify a recall time to apply to a *scheduled production unit or network service* for a range of days rather than being required to enter this same value separately for each day of the *outage*.
- For an *outage* over an extended period of days, where the recall time will vary over time, the *Market Participant* can specify a different recall time at the end of the *outage* to the one specified at the start of the *outage* and the system will assume that the recall time varies linearly over the *outage* period.
- The *Market Participant* is able to change data already entered if an *outage* programme were to be rescheduled where the *Market Participant* has nominated entries as linked to this *outage* programme.

The system is able to handle outage recall data of *scheduled production unit or network service* on a daily resolution. Once entered, the value(s) should need to be changed normally only if the *outage* is rescheduled or its nature changes.

The recall time(s) specified for an outage on a given day should:

- represent the estimated duration between the time a direction is received from *AEMO* and the time that the specified additional capacity is reasonably expected to be available for immediate dispatch given the anticipated conditions, subject to normal rate of change limitations;
- include a reasonable estimate of the time needed to secure fuel or any other expendable resources consumed by the *scheduled production unit* ;
- where this recall time can vary during the day due to different stages of work, the estimate should be based upon an assumption that the direction would be made at the time of day when recall would take the longest; and
- any energy limitations that might limit use of this additional capacity should be noted in the comments associated with the entry for the outage.

3.3.1. Entries for recall information

Entries for recall information will generally be provided on a *scheduled production unit or network service* DUID basis.

For each *outage* period of a *scheduled production unit or network service*, the *Market Participant* can specify up to two separate recall times with corresponding improvements in availability.

As well as numeric entries there are predefined acronyms[2] to reduce data entry by *Market Participants* in the free comment field, including:

- Nil
- IFO – indefinite without a further *outage*

The free comment field associated with each recall can be used to further clarify recall times provided.

The key identifying information for a single recall plan is a combination of:

- the recall plan identifier (supplied by the *Market Participant*); and
- the dispatchable unit identifier (DUID).

A recall plan identifier may be re-used against multiple DUID's. The recall plan information may be different for each DUID, even where the recall plan identifier is the same.

Recall plans are stored in an insert-only fashion for auditing and analysis purposes. Any modification of a recall plan results in a new version under the same recall plan identifier.

A recall plan is comprised of multiple "recall plan entries", each of which has the following attributes:

- Start Date

[2] Note: These have been agreed with *Market Participants* as part of the development of the system. The system is able to add to or amend this list on the basis of experience gained in use of the system.

- End Date
- Stage 1 Recall Time (as at the start date of the entry) – entry in hours
- Stage 1 Recall Time (as at the end date of the entry) – entry in hours
- Stage 1 additional available MW after stage 1 recall
- Stage 1 Entry flag (e.g. "Nil" "Indefinite without further outage")
- Stage 2 Recall Time (as at the start date of the entry)
- Stage 2 Recall Time (as at the end date of the entry)[3]
- Stage 2 additional available MW after stage 2 recall
- Stage 2 Entry flag (e.g. "Nil", "Indefinite without further outage", etc)

The outage with shorter recall must be entered as the Stage 1 in situations where a recall plan entry for a *scheduled production unit or network service* consists of two stages.

Each recall stage has the provision for comments to be added. The types of comments that would be necessary include:

- any energy limitations associated with the additional capacity that could be made available;
- any special issues associated with provision of this additional capacity for instance:
  - where this may require temporary exemptions to be granted to environmental limitations;
  - where this would involve operation beyond upper limits set out in plant performance standards;
  - where this would create any particular reliability issues; and
- Details of additional recall stages as discussed in section 3.3.3.

3.3.2. Materiality

Outages subject to recall and subsequent changes need not be advised under this Procedure if:

- the initial MW capacity that would be available in response to a direction or a change in this value is less than the greater of
  - 10 MW; or
  - 2 % of the registered capacity of the *scheduled production unit or network service*; or
- the recall time is less than 30 minutes.

  The recall time does not need to be updated if the change to recall time represents a difference from the currently specified recall time of less than the greater of
  - 30 minutes; or
  - 5%.

[3] *AEMO* will assume that the recall time varies linearly over the period from the recall time at the start of the period to the recall time at the end of the period.

If a *Market Participant* does not provide recall information under this Procedure for a *scheduled production unit or network service* in a relevant *region*, the *Market Participant* is taken to have advised that no additional capacity can be made available from that unit under *direction* for the period specified in *AEMO's* market notice.

3.3.3. Examples of required entries

Case 1: Production Unit has a maximum capacity available under direction of 700 MW

For a single day partial *outage*, the *PASA availability* is 700 MW and the *available capacity* (**Bid availability**) is 300 MW. There are two concurrent *outages* with recall times as follows:

- Recall of *outage* 1 would increase capacity from 300 MW to 500 MW in 4 hrs.
- Recall of *outage* 2 would increase capacity to 700 MW in 12 hrs assuming *outage* 1 is recalled as well.

In this case the *Market Participant* would specify recall information for two stages (a recall of 4hrs to return to 500 MW and recall of 12hrs to return to 700 MW). In practice for a major *production unit outage* there could be multiple *outages* with different recall times. For the purposes of this Procedure, this should be represented in a simplified form in two stages.

The data that would be provided is as follows:

Period	Stage 1 recall at start date	Stage 1 recall at end date	Stage 1 added availability after recall	Stage 2 recall at start date	Stage 2 recall at end date	Stage 2 added availability after recall
Day 1 to Day 1	4 hrs	4 hrs	200 MW	12 hrs	12 hrs	200 MW

Case 2: **Production unit has a maximum capacity available under direction of 700 MW and for a given period during a partial outage PASA availability is 500 MW and Bid availability is 300 MW**

There are two concurrent *outages* with recall times as follows:

- Recall of *outage* 1 would increase capacity from 300 MW to 500 MW in 12 hrs
- Recall of *outage* 2 would increase capacity to 700 MW in 48 hrs assuming *outage* 1 is recalled as well

In this case *Market Participant* would be expected to specify:

1. Recall time of 12 hrs to restore capacity to *PASA availability* (500MW)
2. Recall time of 48 hrs to restore to maximum capacity (700MW)

The data that would be provided is as follows:

Period	Stage 1 recall at start date	Stage 1 recall at end date	Stage 1 added availability after recall	Stage 2 recall at start date	Stage 2 recall at end date	Stage 2 added availability after recall
Day x to Day y	12 hrs	12 hrs	200 MW	48 hrs	48 hrs	200 MW

Case 3: Production unit has a maximum capacity available under direction of 700 MW and for a given period during an outage PASA availability is 0 MW and Bid availability is 0 MW

There are two concurrent *outages* with recall times as follows:

- Recall of *outage* 1 would increase capacity from 0 MW to 500 MW in 3 days
- Recall of remaining capacity cannot be achieved without a further unit *outage* if unit is placed in service after recall of *outage* 1

In this case Market Participant would be expected to specify:

1. Recall time to restore to 500 MW as 3 days
2. Recall to 700 MW as "indefinite without a further *outage*" by setting the IFO flag

The data that would be provided is as follows:

Period	Stage 1 recall at start date	Stage 1 recall at end date	Stage 1 added availability after recall	Stage 2 recall at start date	Stage 2 recall at end date	Stage 2 added availability after recall
Day x to Day y	72 hours	72 hours	500 MW			200 MW

Case 4: Production unit with maximum capacity available under direction of 700 MW and for the outage period PASA availability is 0 MW and Bid availability is 0 MW

- *For days 1 to 5 of the outage* the recall is 36 hrs to restore availability to 700 MW
- For days 6 to 20 of the outage the recall will be:
  - initially 5 days to restore availability to 300 MW and reduces steadily to 1 day at the end of the period
  - initially 7 days to restore availability to 700 MW and reduces steadily to 1 day at the end of the period

This would be specified in the system as follows:

Period	Stage 1 recall at start date	Stage 1 recall at end date	Stage 1 added availability after recall	Stage 2 recall at start date	Stage 2 recall at end date	Stage 2 added availability after recall
Day 1 to Day 5	36 hrs	36 hrs	700 MW			
Day 6 to Day 20	120 hrs	24 hours	300 MW	168 hours	24 hours	400 MW

Case 5: **Aggregated production unit consists of 10 identical physical units with maximum registered capacity of 1000 MW.** Five units are out of service in different states of maintenance with

- first unit able to return to service in 8 hours
- second unit able to service in 10 hours
- remaining units able to return to service in 12 to 16 hours

Current Bid availability is 500 MW.

The data that would be provided is as follows:

Period	Stage 1 recall at start date	Stage 1 recall at end date	Stage 1 added availability after recall	Stage 2 recall at start date	Stage 2 recall at end date	Stage 2 added availability after recall
Day x to Day y	8 hrs	8 hrs	100 MW	10 hrs	10 hrs	100 MW

A comment would be added to state that a further 300 MW capacity is also available with a recall time of 12 to 16 hrs.

3.3.4. Situations where there are more than two stages for recall

It is appreciated that at times an *outage* programme may be such that the recall would in reality occur in more than two stages. If the overall profile can be reasonably represented conservatively in two stages,[4] then it would be acceptable for a *Market Participant* to provide such an approximation. However, this may not be possible in some cases.

Under such conditions, the *Market Participant* should enter the details of the first two recall stages and include in the free comment field of the form: *"a further xx MW capacity is also available with a recall time of yy hrs or less"*.

4. Responsibilities under this Procedure

- *AEMO* will:
  - issue a market notice identifying the period and the *regions* for which the *outage* recall information is required;
  - clarify the recall information with *Market Participant* when the information provided by *Market Participant* appears unclear or inconsistent with other information; and
  - apply the recall information provided in its intervention decisions.
- *Market Participant* will provide the required *outage* recall information by entering data in the dedicated web portal for any *scheduled production units or network services* where additional capacity could be made available following a direction from *AEMO*.

[4] This on the basis that *AEMO* will assume that the recall time will vary linearly over the period.

Version release history

Version	Effective Date	Summary of Changes
2.0	25 November 2019	Update to criteria for requesting generator recall information
1.0	19 October 2017	Initial Version