



EMMS RELEASE SCHEDULE - GENERATOR RECALL PLAN INTERFACE - DECEMBER 2017

AEMO RELEASE SCHEDULE: EMMS122017GR

Published 1 November 2017 Version 1.00



Schedule Pre-production: Friday 10 November 2017

Production: Thursday 7 December 2017



IMPORTANT NOTICE

Purpose & audience

This document describes the technical changes required to participant's systems for the EMMS Release Schedule - Generator Recall Plan Interface - December 2017. The Australian Energy Market Operator (AEMO) provides this information as a service targeting business analysts and IT staff in participant organisations. It provides guidance about the changes to their market systems under the National Gas or Electricity Rules (Rules), as at the date of publication.

How to use this document

- If you have questions about the business aspects of these changes, please see Consultations on AEMO's website.
- The references listed throughout this document are primary resources and take precedence over this document.
- Unless otherwise stated, you can find resources mentioned in this guide on AEMO's website.
- [Text in this format](#), indicates a reference to a document on AEMO's website.
- This document is written in plain language for easy reading. Where there is a discrepancy between the Rules and information or a term in this document, the Rules take precedence.
- Glossary Terms are capitalised and have the meanings listed against them in the Glossary.
- *Italicised terms* are defined in the Rules. Any rules terms not in this format still have the same meaning.
- Actions to complete in the Web Portal interface are **bold and dark blue**.
- **Red text** means a required field.

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Distribution

Available to the public.

Document Identification

Prepared by: AEMO Market Systems

Last update: Wednesday, 1 November 2017 10:02:00

Version History

v1.00 Initial creation

Documents made obsolete

The release of this document changes only the version of EMMS Release Schedule - Generator Recall Plan Interface - December 2017.

Further Information

For further information, please visit AEMO's website www.aemo.com.au or contact:

AEMO Information and Support Hub Phone: 1300 AEMO 00 (1300 236 600) and follow the prompts. Email: supporthub@aemo.com.au

Feedback

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1 INTRODUCTION

1.1 Summary

When there are foreseeable circumstances requiring AEMO intervention in the NEM, AEMO requires information from generators to determine the latest time to intervene in the absence of a market response. Following a direction from AEMO:

1. Any increase in the physical capacity of a scheduled generating unit that can be made available.
2. The time required to make this capacity available (“recall time”).

Currently, generators send information about recall times for Generating Unit (DUID) outages to AEMO by email. AEMO then manually enter the information into a spreadsheet to provide an integrated picture for guiding operational decisions.

Because this manual process carries risks of delays and miscommunication, AEMO have implemented a more robust approach:

- Generators enter DUID outage information (a recall plan) into the Generator Recall web-based interface in the EMMS Markets Portal.
- The system transfers the information to a central AEMO database for viewing and reporting by AEMO operators.

For more details, see Procedure for Submitting Generator Outage Recall Information.

1.2 Proposed Timeline

The table below details the scheduled times for implementation of this project.

The dates and times for the user group meetings are tentative. AEMO will provide definite dates closer to the meeting day.

For system outage times, see AEMO Change Windows on AEMO’s website>IT systems>It Change and Release Management.

Milestone	Date	Description
Approval required	No approval required	All changes are on AEMO’s systems so no approval required.
Pre-production implementation	Monday 6 November 2017 – Friday 10 November 2017	AEMO implements the release to pre-production for final system/integration testing. AEMO has full access to the system during this period. Participant access is not restricted. However, AEMO does not guarantee the data content or system availability.



Milestone	Date	Description
Revised Technical Specification published	November 2017 if required	If required, AEMO publishes a revised release schedule and technical specification.
User group meeting: pre-production progress	Thursday 23 November 2017	Market systems user group meeting allowing participants to discuss experiences and any issues identified through pre-production testing.
Production implementation	Monday 4 December 2017 – Thursday 7 December 2017	AEMO implements the release to production.
Production systems available	Thursday 7 December 2017	Production systems available to participants.
User group meeting: post-implementation review	Thursday 14 December 2017	Market systems user group meeting allowing participants to review and provide feedback about the implementation of this release.

1.3 Approval to change

This release schedule is for information only. No approval or agreement is required from participant change controllers.

1.4 Benefits

The aim of the new interface is to reduce manual handling and errors by:

- Providing an easy to use interface for generators to enter and update information about recall times of DUID outages.
- Transferring the data to a central database where AEMO operational staff can access and use it.

1.5 Business impact

Generators no longer send emails to AEMO with the DUID outage details; they use the Wholesale Energy Market Management System (EMMS) Generator Recall Plan web interface or web services where they can create, view, modify, clone, and delete recall plans.

1.6 Risks

AEMO understands this information is confidential and has designed the system to protect the confidentiality of participants' information.



1.7 Related resources

At implementation time you will find the following documents on [AEMO's website](#):

[Generator Recall APIs Technical Guide](#), provides participants with the detailed technical specifications for the delivery of generator recall information using the e-Hub API Gateway (AEMO will published by the production date).

[Procedure for Submitting Generator Outage Recall Information](#), provides guidelines for *Generators* to submit recall information and explains how AEMO interprets and uses this information.



2 DETAILS

Generators can interact with Generator Recall:

1. By manually entering information in the Markets Portal, see [Using the Markets Portal](#) on page 8.
2. By using web services to send and retrieve information, see [Using web services](#) on page 13.

Generators can only access their own information. They cannot see information for other generators.

2.1 Recall Plan Rules

Recall plans must comply with the following rules:

- Only the registered owner of the DUID, at the current system time, can view or submit recall plans.
- Multiple recall plans for a single DUID cannot overlap.
- Recall plan entries, within a single recall plan, must be contiguous (for example, no gaps in dates), and cannot overlap.
- Recall quantities (for example, availability MW and recall time) must be greater than zero.
- Recall availability MW must be less than or equal to the maximum capacity of the DUID.
- Recall quantities in Stage 1 must be less than recall quantities in Stage 2, for a recall plan entry.
- Recall times cannot exceed a value of 1051200 minutes (approximately 2 years).

For more details, see [Procedure for Submitting Generator Outage Recall Information](#).



3 USING THE MARKETS PORTAL

3.1 System requirements

The Markets Portal is accessed using a web browser and requires:

- The website address where the application is located on AEMO's network:
 - Pre-production: <https://msats.preprod.marketnet.net.au>
 - Production: <https://msats.prod.marketnet.net.au>

The Web Portal gives you a clear indication of the environment you are working in by providing a different border colour around the home page. The production environment has a grey border and the pre-production environment has a green border.

For the best experience, AEMO recommend using the current or the previous version of Google Chrome.

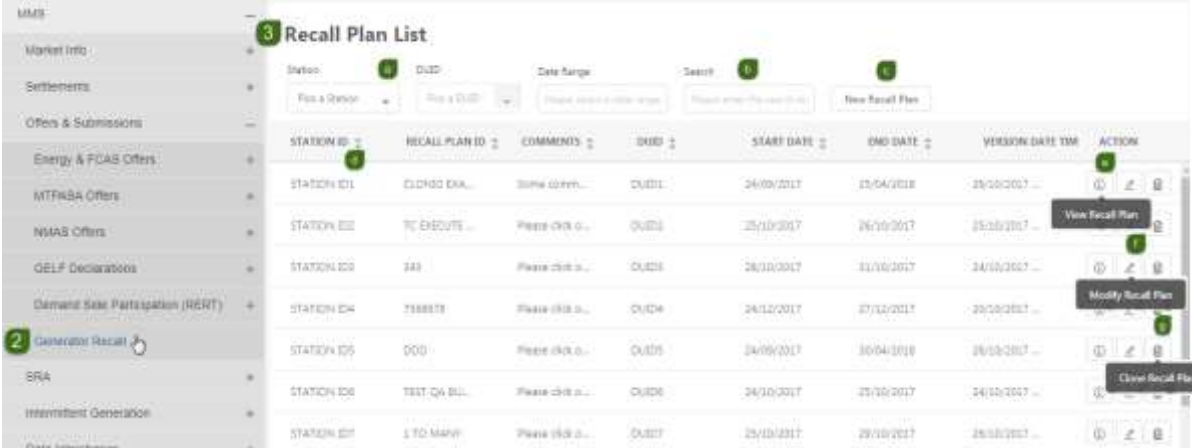
- Access to MarketNet. If your company is a registered participant, you probably already have access because it is set up during the registration process. For more details, see [Guide to Information Systems](#).
- A user ID and password provided by your company's participant administrator (PA) who controls access to AEMO's web portals. For more details, see [Guide to User Rights Management \(URM\)](#). PAs are set up during the registration process, if you do not know who your company's PA is, contact AEMO's Support Hub: supporthub@aemo.com.au.
- The Markets Portal runs on both Windows and Unix-like operating systems.

3.2 Accessing Generator Recall Plan

1. Using your web browser, access the Markets Portal. For help, see System requirements above.
2. Select **MMS > Offers & Submissions > Generator Recall**. For help, see Figure 1 on page 9.
3. Your Participant ID recall plan list displays, where you can:
 - a. Filter by Station, DUID, or Date Range.
 - b. Search by text.
 - c. Create a new recall plan.
 - d. Click the up or down arrows to sort.
 - e. View existing recall plan details.
 - f. Modify an existing recall plan.
 - g. Clone an existing recall plan.



Figure 1 Recall plan list



STATION ID	RECALL PLAN ID	COMMENTS	DUID	START DATE	END DATE	VERSION DATE	TIME	ACTION
STATION ID1	CLONED EXA...	Some comm...	DUID1	24/09/2017	25/04/2018	25/09/2017		View Recall Plan
STATION ID2	TC EXECUTE...	Please click o...	DUID2	25/10/2017	26/10/2017	25/10/2017		Modify Recall Plan
STATION ID3	243	Please click o...	DUID3	28/10/2017	31/10/2017	24/10/2017		Clone Recall Plan
STATION ID4	7388578	Please click o...	DUID4	24/12/2017	27/12/2017	20/10/2017		
STATION ID5	000	Please click o...	DUID5	24/09/2017	30/04/2018	28/09/2017		
STATION ID6	TEST QA BU...	Please click o...	DUID6	24/10/2017	25/10/2017	24/10/2017		
STATION ID7	LTO MANV	Please click o...	DUID7	25/10/2017	29/10/2017	25/10/2017		

3.3 Create a new recall plan

A quick way to create a new recall plan is to clone an existing plan, see Clone an existing recall plan on page 12.

For help creating the plan, see Scenarios on page 20.

To create a new recall plan:

1. Login to the Markets Portal, for help, see Accessing Generator Recall Plan on page 8.
2. Click **New Recall Plan**. For help, see Figure 1 above.
3. Click **New Recall Entry**. For help, see Figure 2 on page 10
4. A new row appears, double-click in each field to enter the following details:
 - a. Select a **Station ID**.
 - b. Select a **DUID**.
 - c. Enter a **Recall Plan ID**. This is a unique alphanumeric value of your choice, from 1 to 40 characters.
 - d. Enter any **Stage 1** or **Stage 2 Comments**. These are your comments advising other operators of your decision process. The field is alphanumeric text up to 60 characters.
 - e. Enter a plan **Start and End Date**.
 - f. Enter a **Stage 1 Recall Time (at Start Date)** and a **Stage 1 Recall Time (at End Date)**.

Specify a recall time to apply to a DUID for a range of days. You do not need to enter the same value separately for each day of the outage. For example: If for a 20-day outage recall, Day 1 is 10 days and remains at that level through to Day 10 but then reduces steadily for the remainder of the outage, then you can specify recall times at Day 1, Day 10, and Day 20.



- g. Enter a **Stage 1 Quantity (in MW)**.
 - h. Enter a **Stage 1 Flag**: No recall (NRL), Uncertain (UNC), Indefinite without further outage (IFO).
 - i. Enter a **Stage 2 Recall Time (at Start Date)**.
For each day and for each DUID, you can specify up to two separate recall times with corresponding improvements in availability.
 - j. Enter a **Stage 2 Recall Time (at End Date)**.
 - k. Enter a **Stage 2 Quantity (in MW)**.
 - l. Enter a **Stage 2 Flag**: No recall (NRL), Uncertain (UNC), Indefinite without further outage (IFO).
5. A recall plan is made of 1 or more entries so, if required, continue adding entries.
 6. Click **Save Changes**.
To delete an entry (not the whole plan), click the delete icon.
If you need to make changes, see [Modify an existing recall plan](#) on page 11.

Figure 2 New recall plan

3.4 View existing recall plans

To review the latest DUID information you provided:

1. Access the Generator Recall Plan web interface. For help, see [Accessing Generator Recall Plan](#) on page 8.
2. Use the sort, filter, or search options to find the existing plan. For help, see [Figure 1](#) on page 9.
3. In the **Action** column, click **View Recall Plan**. For help, see [Figure 1](#) on page 9.
4. A window displays where you can view the recall plan details.

This interface is read-only, you cannot modify the plan, see [Modify an existing recall plan](#) on page 11.



5. To close the window, click **OK**.

START DATE	END DATE	STAGE 1 RECALL TIME%	STAGE 2 RECALL TIME%	STAGE 1 QUANTITY GWh	STAGE 1 PLAN	STAGE 2 RECALL TIME%	STAGE 2 RECALL TIME%	STAGE 2 QUANTITY	STAGE 2 PLAN
24/02/2017	24/02/2017	12 hours	12 hours	5	GEN	12 hours	12 hours	1 hour	GEN
25/04/2017	25/04/2017	22 hours	22 hours	50	GEN	22 hours	22 hours	1 hour	GEN

3.5 Modify an existing recall plan

You can change an entry if an outage is rescheduled or its nature changes:

1. Access the Generator Recall Plan web interface. For help, see Accessing Generator Recall Plan on page 8.
2. Use the sort, filter, or search options to find the existing plan. For help, see Figure 1 on page 9.
3. In the **Action** column, click **Modify Recall Plan**. For help, see Figure 1 on page 9.
4. A window displays where you can modify the recall plan details by clicking inside the field you want to modify.
5. Make your change, and click **Save Changes**.
6. From this interface, you can also:
 - a. Add recall plan entries.
Click **New Recall Entry** to include another row in the grid, enter the details, and click **Save Changes**. For help, see Create a new recall plan on page 9.
 - b. Delete recall plan entries.
Click the delete icon next to the entry to remove it from the grid, and then click **Save Changes**.

START DATE	END DATE	STAGE 1 RECALL TIME%	STAGE 2 RECALL TIME%	STAGE 1 QUANTITY GWh	STAGE 1 PLAN	STAGE 2 RECALL TIME%	STAGE 2 RECALL TIME%	STAGE 2 QUANTITY	STAGE 2 PLAN
24/02/2017	24/02/2017	12	12	5	GEN	12	12	1	GEN
14/05/2017	25/04/2017	20	20	50	GEN	20	20	1	GEN



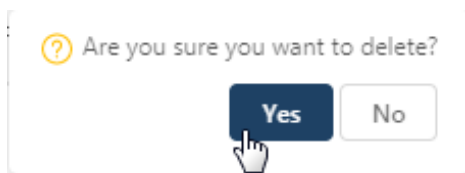
3.6 Clone an existing recall plan

To make it easy to create a new plan, you can clone an existing plan:

1. Access the Generator Recall Plan web interface. For help, see Accessing Generator Recall Plan on page 8.
2. Use the sort, filter, or search options to find the existing plan. For help, see Figure 1 on page 9.
3. In the **Action** column, click **Clone Recall Plan**. For help, see Figure 1 on page 9.
4. A window display where you can double-click in the fields to edit them. For help with the fields, see Create a new recall plan on page 9.
5. From this interface, you can also:
 - a. Add recall plan entries.
Click **New Recall Entry** to include another row in the grid, enter the details, and click **Save Changes**. For help, see Create a new recall plan on page 9.
 - b. Delete recall plan entries.
Click the delete icon next to the entry to remove it from the grid, and then click **Save Changes**.
6. When you are finished, click **Save Changes**.

3.7 Delete an existing recall plan

1. Follow the instructions for modifying an existing recall plan on page 11.
2. Use the sort, filter, or search options to find the existing plan. For help, see Figure 1 on page 9.
3. In the **Action** column, click **Modify Recall Plan**. For help, see Figure 1 on page 9.
4. Click the delete icon next to each entry and click **Yes** to confirm deletion.



5. When you have deleted all entries, click **Save Changes**.
6. A message confirms the plan is removed from the **Recall Plan List**.



4 USING WEB SERVICES

This section provides a draft of the web services participants can use to send and retrieve Generator Recall information. AEMO will publish a **Generator Recall APIs Technical Guide** providing participants with the detailed technical specifications for the delivery of generator recall information using the e-Hub API Gateway.

PI name	Description	Authorization right ID
ListRecallPlans	Retrieve a list of recall plans, subject to filter criteria	TBA – Digital team to provide
GetRecallPlan	Retrieve the latest version of a specified recall plan	TBA – Digital team to provide
SubmitRecallPlan	Submit a new recall plan, or create a new version of an existing recall plan	TBA – Digital team to provide
ListRecallFlags	Retrieve a list of supported recall flags, as-at the current system time	TBA – Digital team to provide

4.1 ListRecallPlans API

Description	Retrieve a list of recall plans, subject to filter criteria
URL Path	/api/v1/GeneratorRecall/ListRecallPlans
Method	POST
Authorization Mode	Participant specific
Request Content	Content Body: <pre>{ "ParticipantId": [string], "StartDate": [datetime], "EndDate": [datetime], "StationId": [string], "DUID": [string], "OutagePlanId": [string] }</pre>



Description	Retrieve a list of recall plans, subject to filter criteria
Success Response	<p>Content Body:</p> <pre>{ "data": { "RecallPlans": [{ "OutagePlanId": [string], "OutagePlanDescription": [string], "DUID": [string], "MinStartDate": [datetime], "MaxEndDate": [datetime], "VersionDateTime": [datetime] }, { "OutagePlanId": [string], "OutagePlanDescription": [string], "DUID": [string], "MinStartDate": [datetime], "MaxEndDate": [datetime], "VersionDateTime": [datetime] }] } }</pre>

4.2 GetRecallPlan API

Description	Submit a new recall plan, or create a new version of an existing recall plan
URL Path	/api/v1/GeneratorRecall/GetRecallPlan
Method	POST
Authorization Mode	Participant specific
Request Content	<p>Content Body:</p> <pre>{ "ParticipantId": [string], "OutagePlanId": [string], "DUID": [string] }</pre>



Description	Submit a new recall plan, or create a new version of an existing recall plan
Success Response	Content Body: <pre data-bbox="501 383 925 1704"> { "data": { "OutagePlanId": [string], "OutagePlanDescription": [string], "DUID": [string], "VersionDateTime": [datetime], "RecallPlanEntries": [{ "StartDate": [datetime], "EndDate": [datetime], "Stage1RecallMinutesStart": [number], "Stage1RecallMinutesEnd": [number], "Stage1MW": [number], "Stage1RecallFlag": [string], "Stage2RecallMinutesStart": [number], "Stage2RecallMinutesEnd": [number], "Stage2MW": [number], "Stage2RecallFlag": [string] }, { "StartDate": [datetime], "EndDate": [datetime], "Stage1RecallMinutesStart": [number], "Stage1RecallMinutesEnd": [number], "Stage1MW": [number], "Stage1RecallFlag": [string], "Stage2RecallMinutesStart": [number], "Stage2RecallMinutesEnd": [number], "Stage2MW": [number], "Stage2RecallFlag": [string] }] } }</pre>

4.3 SubmitRecallPlan API

Description	Create a new recall plan or modify an existing recall plan
URL Path	/api/v1/GeneratorRecall/SubmitRecallPlan
Method	POST



Description Create a new recall plan or modify an existing recall plan

Authorization Mode Participant specific

Request Content

Content Body:

```

{
  "ParticipantId": [string],
  "OutagePlanId": [string],
  "OutagePlanDescription": [string],
  "DUID": [string],
  "RecallPlanEntries":
  [
    {
      "StartDate": [datetime],
      "EndDate": [datetime],
      "Stage1RecallMinutesStart": [number],
      "Stage1RecallMinutesEnd": [number],
      "Stage1MW": [number],
      "Stage1RecallFlag": [string],
      "Stage2RecallMinutesStart": [number],
      "Stage2RecallMinutesEnd": [number],
      "Stage2MW": [number],
      "Stage2RecallFlag": [string]
    },
    {
      "StartDate": [datetime],
      "EndDate": [datetime],
      "Stage1RecallMinutesStart": [number],
      "Stage1RecallMinutesEnd": [number],
      "Stage1MW": [number],
      "Stage1RecallFlag": [string],
      "Stage2RecallMinutesStart": [number],
      "Stage2RecallMinutesEnd": [number],
      "Stage2MW": [number],
      "Stage2RecallFlag": [string]
    }
  ]
}

```




Description	Create a new recall plan or modify an existing recall plan
Success Response	<p>Content Body:</p> <pre> { "data": { "SuccessFlag": [boolean], "VersionDateTime": [datetime], "Errors": [{ "ErrorMessage": [string], "EntryNumber": [number], "EntryField": [string] }, { "ErrorMessage": [string], "EntryNumber": [number], "EntryField": [string] }] } }</pre>

4.4 ListRecallFlags API

Description	Retrieve a list of recall flags supported by the web interface as-at the current system time
URL Path	/api/v1/GeneratorRecall/GetRecallFlags
Method	POST
Authorization Mode	Authentication only
Request Content	<p>Content Body:</p> <pre> { }</pre>



Description	Retrieve a list of recall flags supported by the web interface as-at the current system time
Success Response	<p>Content Body:</p> <pre>{ "data": { "RecallFlags": [{ "RecallFlagId": [string], "RecallFlagDescription": [string] }, { "RecallFlagId": [string], "RecallFlagDescription": [string] }] } }</pre>



5 GLOSSARY

Abbreviation	Explanation
DUID	Generating Unit ID
e-Hub API Gateway	AEMO's communication platform supporting exchange of information between participants and/or Participants and AEMO.
EMMS	AEMO's Wholesale Energy Market Management System. Software, hardware, network and related processes to implement the wholesale energy market.
Markets Portal	Wholesale system pre-production and production web-based portals: <ul style="list-style-type: none">▪ Production: https://portal.prod.market.net.au▪ Pre-production: https://portal.preprod.market.net.au



6 SCENARIOS

In practice, for a major unit outage there may be multiple outages with different recall times, however for simplicity AEMO only require generators to specify up to two stages for each day.

Scenario	Recall times	Expected result
DUID capacity 700 MW. PASA availability 700 MW. Bid availability 300 MW.	There are two concurrent outages with recall times as follows: <ol style="list-style-type: none"> 1. Outage 1 increases capacity from 300 MW to 500 MW in 4 hrs. 2. Outage 2 increases capacity to 700 MW in 12 hrs assuming outage 1 is recalled. 	The generator specifies two stages: <ol style="list-style-type: none"> 1. A recall of 4 hrs to return to 500 MW. 2. A recall of 12 hrs to return to 700 MW.
DUID capacity 700 MW. PASA availability for a given period 500 MW. Bid availability 300 MW.	There are two concurrent outages with recall times as follows: <ol style="list-style-type: none"> 1. Recall of outage 1 increases capacity from 300 MW to 500 MW in 12 hrs. 2. Recall of outage 2 increases capacity to 700 MW in 48 hrs assuming outage 1 is also recalled. 	Generators specify two stages: <ol style="list-style-type: none"> 1. A recall time to restore capacity to at least PASA availability. 2. A longer recall time to restore remaining capacity.
DUID capacity 700 MW. PASA availability for a given period 0 MW. Bid availability 0 MW.	There are two concurrent outages with recall times as follows: <ol style="list-style-type: none"> 1. Recall of outage 1 increases capacity from 0 MW to 500 MW in 3 days. 2. Recall of remaining capacity is unachievable without a further unit outage if the unit is placed in service after the recall of outage 1. 	Generators specify two stages: <ol style="list-style-type: none"> 1. A recall time to restore to 500 MW in 3 days. 2. Time to recall to 700 MW as “indefinite without a further outage”.