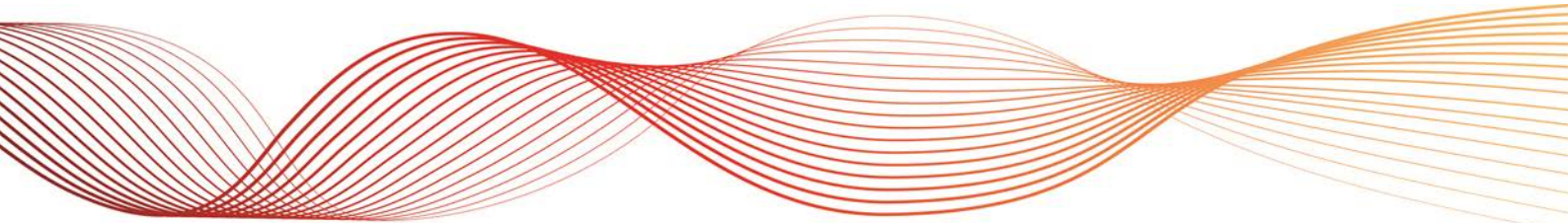




# WEMS 3.16 (BUILD 1105-2) RELEASE NOTES

Published: **May 2016**





# IMPORTANT NOTICE

## Purpose

The Australian Energy Market Operator has prepared this document to provide information about WEMS 3.16 (Build 1105-2) release, as at the date of publication.

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## VERSION RELEASE HISTORY

Version	Effective Date	Summary of Changes
1.0	10/05/2016	Document Creation
1.1	26/05/2016	Corrected description of min_hour_notice_period field

## DOCUMENT APPROVAL

Name and Position	Date
Martin Maticka Group Manager, Operations and Technology (WA)	10/05/2016



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# 1. INTRODUCTION

These are the release notes for WEMS 3.16 (Build 1105-2). This release includes a number of changes to AEMO's WA market systems driven by the WA State Government's Electricity Market Review. This release also addresses a number of important issues which are discussed in the sections below, including information relating to a metering software update.



## 2. ELECTRICITY MARKET REVIEW: RESERVE CAPACITY MECHANISM

The WA State Government is currently conducting the Electricity Market Review (**EMR**) that examines the generation, wholesale and retail sectors within the South West Interconnected System. The EMR has proposed reforms in four specific workstreams; Network Regulation, Market Competition, Institutional Arrangements and Wholesale Electricity Market Improvements.

The Wholesale Electricity Market Improvements workstream includes two projects, one of which relates to reforming the Reserve Capacity Mechanism (**RCM**). A number of the changes to the RCM introduced as part of these reforms will commence on 1 June 2016<sup>1</sup> and have been included as part of this release. These are summarised in the sections below.

### 2.1 Change to Certified Reserve Capacity (CRC) Submissions

The certification submission screen in the Market Participant Interface (MPI) has been modified to ensure all information required for setting CRC are provided through and stored within the same mechanism. This includes the CSV submission, supporting documentation and the application spreadsheet. The XML submission format will no longer be supported going forward following this release.

Market Participants will be required to submit one application for each facility. Each transaction in the MPI will be treated as a separate and complete submission, with AEMO using the most recent successful submission in its assessment to determine the allocation of CRC.

**If there are changes to the information already submitted, the entire submission including the supporting documentation and application spreadsheet will need to be resubmitted.** The cancellation submission for CRC will no longer be supported following this release.

#### 2.1.1 Submission formats

A number of changes have been introduced to the type of information required to be submitted by Market Participants for the annual CRC process. The new CSV templates will be available from the CRC submission screen within the MPI following this release. The changes are specific to the facility type being certified and are detailed below.

##### Scheduled Generators

###### New fields:

- `primary_fuel` and `alternative_fuel`. These are free text fields up to a maximum of 30 characters to meet the requirements of MR 4.10.1(e)v2. `primary_fuel` is a mandatory field while `alternative_fuel` is optional.
- `certified_fuel_type`: This specifies the fuel type which the facility will be certified on to meet the requirements of MR 4.10.1(e)v1ii. This can only be LIQUID, NON\_LIQUID or DUAL.

##### Demand Side Programmes

Please note that the *Additional Block* CSV upload has been removed due to DSPs only having a single availability class.

###### New fields:

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<sup>1</sup> In this document, unless the context otherwise requires, Market Rule references are to the Market Rules as proposed to be amended by the RCM rule changes.

- `ramp_rate`: the proposed ramp rate limit of the DSP facility in accordance with MR 4.10.1(f)(vii).

**Amended fields:**

- `max_available_hours_per_year`: field has been modified to ensure values are greater than 200 in accordance with MR 4.10.1(f)(ii).
- `max_available_hours_per_day`: field has been modified to ensure values are greater than or equal to 12 in accordance with MR 4.10.1(f)(iii).
- `min_hour_notice_period`: field has been modified to ensure values are between 0 and 2 in accordance with MR 4.11.1(c)(vi).
- `min_dispatch_delivery_hour` and `min_dispatch_delivery_interval`: fields has been modified to ensure value is not set to an interval after 8:00am (8-1 interval) in accordance with MR 4.10.1(f)(vi).

**Removed Fields:**

- `max_activation_calls_per_year`: removed in accordance with MR 4.10.1(f)(iv).
- `availability_class`: removed as the availability class can be derived from the information submitted in accordance with MR 4.11.4.

## 2.1.2 CRC submission screen features

This release includes a number of new features to the CRC submission and report screens. These are described in the sections below.

### Template downloads

Market Participants will be able to download the following templates from the Reserve Capacity Certification submission screen:

- 1) *Certified RC application template*: this is the application spreadsheet applicable for all facility types
- 2) *Main CSV template*: submission template applicable for DSPs and loads
- 3) *Scheduled Generator CSV template*: submission template applicable for scheduled generators
- 4) *Non Scheduled Generator CSV template*: submission template applicable for non-scheduled generators

Please note that the templates available will depend on the facility type selected in the drop down menu as illustrated below.



### Supporting Information upload

Market Participants are required to submit their supporting information with their *Certified RC application template* and *CSV template* for the given facility type. This is done through the Reserve Capacity Certification submission screen as illustrated below (for scheduled generators).

Files

Scheduled Generator CSV *	<input type="text"/>	<input type="button" value="Browse..."/>	
Certified RC application *	<input type="text"/>	<input type="button" value="Browse..."/>	
Network access *	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Network constraints activated in the past 24 months *	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Environmental approvals	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Description of Facility *	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Temperature Dependence Curve *	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Fuel supply *	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Fuel transport *	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Fuel availability *	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Network Control Services contract	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Expected forced and unforced outage rates *	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Project plan	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Land leases	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Financial commitment and funding arrangements	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Local government approvals	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Offtake agreement or Power Purchase Agreement	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Accredited expert report	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Commercial arrangements if Facility owner and operator differ	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>
Other	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="+"/>

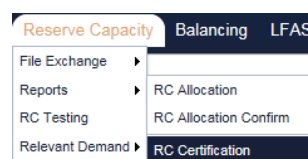
\* Files are limited to 50MB in size and 250MB in total

The selection of optional and mandatory supporting information varies according to the facility type selected. Mandatory fields are denoted by the red asterisk.

Each file type also includes a tool tip which explains the purpose of each supporting information category. Each supporting information category allows users to upload up to 5 files by pressing **+** (maximum of 50MB for a file, and 250MB for the whole submission) if required, as well as an 'other' category which allows additional information to be provided should more than 5 files be required.

### Report screen summary and download

To ensure the accuracy of the submitted information, Market Participants are encouraged to visit the RC Certification Report screen as per below:



The Certification Details pane on the right displays (as illustrated below) the information which the facility will be assessed as well as the supporting documents which were submitted. At the bottom of this display, there is an option to download all the supporting documents submitted by clicking on the 'Zipped Files' download link.





Certification Details	
Certification Mode	NORMAL
Capacity Year	2018
Facility Name	
Facility Type	Scheduled Generator
Facility Status	Commercial Operation
Capacity Block	BLOCK1
Availability Class	CLASS1
Available Capacity (MW)	
Available Capacity Hot (MW)	
Full Capacity Obligation Date	01 Jun 2018
Project Approval Date	31 Dec 2012
Project Financing Date	10 Aug 2012
Project Site Preparation Date	01 Mar 2013
Project Construction Start Date	01 Jun 2013
Equipment Installation Date	01 Dec 2013
Commissioning Trials Date	01 Jun 2014
Decommission Date	01 Oct 2064
Unforced Outage Rate	3.280
Certification Methodology	Normal
NCS Contract	true
Primary Fuel Type	Gas
Alternative Fuel Type	Diesel
Certified RC application	
Description of Facility	
Fuel supply	
Fuel transport	
Fuel availability (minimum 14 hours with one day resupply)	
Network access	
Network constraints activated in the past 24 months	
Temperature Dependence Curve	
Expected forced and unforced outage rates	
Zipped files	Download

## 2.2 Renaming of the Maximum Reserve Capacity Price to the Benchmark Reserve Capacity Price

Although this change will not affect day to day operations, references to the Maximum Reserve Capacity Price in WEMS have been changed to the Benchmark Reserve Capacity Price.

Under reports in the MPI, the RCM\_MaxPrice report will remain unchanged for historical purposes. A new report will be created to capture future Benchmark Reserve Capacity Prices. This report will contain the following market parameters:

- Benchmark Reserve Capacity Price (from the 2017 Capacity Year onwards) and Maximum Reserve Capacity Price (for Capacity Years prior to and including 2016)
- Maximum STEM Price
- Alternative Maximum STEM price
- Minimum STEM Price
- Balancing Gate Closure
- LFAS Gate Closure

This report is available via RESTful web services and can be accessed using HTTP GET requests. All data returned that is not file content data is in JSON format. The base URL is [https://\[hostname\]/mpi/ws/rest/v1/wem](https://[hostname]/mpi/ws/rest/v1/wem), where the hostname is:

**Market Trial:** wems-mkt.aemo.com.au

**Production:** wems.aemo.com.au

This report can request the market parameter values on current trade date as well as for a specific trade date. This is illustrated by the URLs below:

**Current:** /mpi/ws/rest/v1/wem/attributes/current

**By trade date:** /mpi/ws/rest/v1/wem/attributes/YYYY-MM-DD

A sample response is provided below:



```
[
  {
    "name": "ALT_STEM_PRICE",
    "description": "Alternative Maximum Stem Price",
    "value": 307,
    "unit": "$/MWh"
  },
  {
    "name": "BALANCING_GATE_CLOSURE",
    "description": "Gate Closure time in minutes for the balancing market",
    "value": 120,
    "unit": "Minutes"
  },
  {
    "name": "LFAS_GATE_CLOSURE",
    "description": "Gate Closure time in minutes for the load following market",
    "value": 300,
    "unit": "Minutes"
  },
  {
    "name": "MAX_RESV_CAP_PRICE",
    "description": "Maximum Reserve Capacity Price",
    "value": 157000,
    "unit": "$/MW/Annum"
  },
  {
    "name": "MAX_STEM_PRICE",
    "description": "Maximum Stem Price",
    "value": 253,
    "unit": "$/MWh"
  },
  {
    "name": "MIN_STEM_PRICE",
    "description": "Minimum Stem Price",
    "value": -1000,
    "unit": "$/MWh"
  }
]
```

The information in this web service is also available under a new MPI report (Reports tab → Attributes) illustrated below.

The screenshot shows the WEMS web interface with the 'Reports' tab selected. Below the navigation bar, a table titled 'WEM Attributes' displays the following data:

Name	Description	Value	Unit
ALT_STEM_PRICE	Alternative Maximum Stem Price	307	\$/MWh
BALANCING_GATE_CLOSURE	Gate Closure time in minutes for the balancing market	120	Minutes
LFAS_GATE_CLOSURE	Gate Closure time in minutes for the load following market	300	Minutes
MAX_RESV_CAP_PRICE	Maximum Reserve Capacity Price	157000	\$/MW/Annum
MAX_STEM_PRICE	Maximum Stem Price	253	\$/MWh
MIN_STEM_PRICE	Minimum Stem Price	-1000	\$/MWh



### 3. INDIVIDUAL RESERVE CAPACITY REQUIREMENT (IRCR) LOGS

AEMO has undertaken a process to rationalise the IRCR Report log file to resolve some known issues in the output file. The IRCR log report (defined in section 12.4 of the WEMS Report and Web Service Specification<sup>2</sup>) has the following report field changes implemented in this release:

- **TDL flags:** NMs with a status of New and TDL will now report with New flag = 1 and TDL flag = 1. This addresses an issue raised by a Market Participant.
- **Median MWh:** NMs with a status of 'New' will not include the 1.3 factor in the median value.

In addition to these field changes, all NMs associated with Western Power Retail Corporation (WPRTL) will appear in the IRCR Log for Synergy (WPGENER). This change was required to resolve the data management issues with the re-merger of Synergy and Verve Energy.

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<sup>2</sup> The WEMS Report and Web Service Specification is available from: <http://wa.aemo.com.au/home/electricity/market-participants/guides-and-useful-information>.



## 4. RESOLVED ISSUES

	Reference	Summary	Problem
●	WEMS-6246	Incorrect balancing submission prices for MIN and MAX price variables were being provided through to Settlements	<p>The Balancing Price passed through to settlements was not correctly loss factor adjusting relative prices (MIN and MAX variables).</p> <p>Affected prices have been rectified for historical intervals and passed through to Settlements which will be reflected in the next settlement adjustment. The process for providing the submitted Balancing Price for settlements has been fixed.</p>
●	WEMS-6231	The observation test calculation for DSPs in the RC testing application does not execute unless there are meter readings for all associated loads on all active channels.	<p>The observation test results column displays 'Not Passed' despite the calculation not executing due to metering data not being available for all active channels, on all associated loads.</p> <p>The observation test will be calculated for all intervals where meter readings are available in at least one channel for all associated loads for a DSP.</p>
●	WEMS-6222	The format of Market Advisories sent to Market Participants by AEMO were not standardised.	<p>As part of the AEMO transition, the Market Advisories format remained unchanged.</p> <p>The template used to create Market Advisories has been updated to ensure consistency across the organisation.</p>
●	WEMS-6271	Settlement Portal did not provide the PIR with the settlement statements.	<p>The scanning feature in the Settlement Portal was unable to associate the PIRs to the settlement run.</p> <p>This feature has been updated to ensure that all relevant documents to the settlement run are correctly identified as a part of the scan and are available in the Settlement Portal.</p>

### Status

- Internal changes
- Minimal or no impact to Market Participants
- Needs Market Participants' attention. Potentially requires system or operational procedure changes



## 5. INTERNAL CHANGES

The changes detailed below have been initiated to deliver operational efficiencies within AEMO. These are internal changes only and will have no material impact on Market Participants.

### 5.1 CAST services

The Compliance and Surveillance Tools (CAST) application was developed to automate a number of compliance checks in the WEM and GBB WA. This release introduces several services to support the provision of market data to the CAST application.

### 5.2 MOSMI standalone

This release contains changes to the market monitoring tool, MOSMI, which is used by the Market Operations team. The MOSMI tool is a critical application which performs a number of automated checks on the operational status of the WEM and GBB WA.

The MOSMI tool was originally developed to be tightly coupled with WEMS. However, this dependency on WEMS currently prevents MOSMI from functioning where WEMS is on outage (i.e. it is unable to monitor the GBB while WEMS is on outage).

A project was initiated to segregate MOSMI into a standalone application which would remove its dependency on WEMS. This will help facilitate the tool being in use beyond the changes introduced by the EMR.



# MEASURES AND ABBREVIATIONS

## Abbreviations

Abbreviation	Expanded name
AEMO	Australian Energy Market Operator
CAST	Compliance and Surveillance Tools
CRC	Certified Reserve Capacity
CSV	Comma Separated Value
DSP	Demand Side Program
EMR	Electricity Market Review
GBB WA	Gas Bulletin Board Western Australia
HTTP	Hypertext Transfer Protocol
IRCR	Individual Reserve Capacity Requirement
LFAS	Load Following Ancillary Service
MB	Megabyte
MOSMI	Market Operator System Monitoring Interface
MPI	Market Participant Interface
MWH	Megawatt Hours
MR	Market Rules
NSTEM	Non-STEM settlement
PIR	Participant Information Report
RC	Reserve Capacity
RCM	Reserve Capacity Mechanism
STEM	Short Term Energy Market
TDL	Temperature Dependent Load
URL	Uniform Resource Identifier
WEMS	Wholesale Electricity Market System
XML	EXtensible Markup Language
XSD	XML Schema Definition



## GLOSSARY

Term	Definition
Alternative Maximum STEM price	The maximum price set in accordance with clause 6.20.3 that may be associated with a Portfolio Supply Curve for a portfolio including Facilities expected to run on Liquid Fuel or any Portfolio Demand Curve forming part of a STEM Submission or Standing STEM Submission.
Balancing Gate Closure	For a Trading Interval means the point in time immediately before the commencement of the Trading Interval determined by AEMO under clause 7A.1.16 or 7A.1.17, as applicable.
Benchmark Reserve Capacity Price	From 1 June 2016, in respect of a given Reserve Capacity Cycle, the price in clause 4.16.2 as revised in accordance with clause 4.16.
LFAS Gate Closure	Means, for the 12 Trading Intervals in an LFAS Horizon, the point in time which is 3 hours immediately before the Balancing Gate Closure for the first of those Trading Intervals.
Maximum Reserve Capacity Price	In respect of a given Reserve Capacity Cycle, the price in clause 4.16.2 as revised in accordance with clause 4.16.
Maximum STEM Price	The price determined in accordance with clause 6.20.2 as the maximum price that may be associated with a Portfolio Supply Curve for a portfolio including no Facilities expected to run on Liquid Fuel forming part of a STEM Submission or Standing STEM Submission.
Minimum STEM Price	Means negative \$1,000.00 per MWh.
Settlement Portal	The interface within the MPI where Market Participants are able to access their settlement data.