REGISTRATION TECHNICAL DATA GUIDE

Version 4.1

July 2023

Important notice

PURPOSE

AEMO has prepared this document to provide information about the formats for registration data required by AEMO in the Wholesale Electricity Market Systems (WEMS) in accordance with the WEM Rules, as at the date of publication.

DISCLAIMER

This document or the information in it may be subsequently updated or amended. This document does not constitute legal or business advice and should not be relied on as a substitute for obtaining detailed advice about the Electricity Industry Act 2004, the Wholesale Electricity Market (WEM) Rules, or any other applicable laws, procedures or policies. AEMO has made every effort to ensure the quality of the information in this document but cannot guarantee its accuracy or completeness.

Accordingly, to the maximum extent permitted by law, AEMO and its officers, employees and consultants involved in the preparation of this document:

- make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information in this document; and

- are not liable (whether by reason of negligence or otherwise) for any statements or representations in this document, or any omissions from it, or for any use or reliance on the information in it.

VERSION CONTROL

Version	Release date	Changes
3.90	28/01/2021	Updated WEM Rule references related to NSG maximum sent out generation.
4.0	03/05/2023	Updated to meet new Taxonomy and registration data requirements under new Amending Rules that have been made by the Minister for Energy to give effect to the Energy Transformation Strategy.
4.1	18/07/2023	Updated to amend manifest errors and provide clarity on specific data fields

Contents

1. Overview

1.1 Purpose

1.1.1   This document is the WEM Registration Technical Guide. It specifies the application forms and field requirements that are to be submitted to AEMO for the purposes section 2 and Appendix 1 of WEM Rules which come into operation at a time specified by the Minister in a notice published in the Gazette.

1.1.2   This technical guide outlines Standing Data required to be provided to AEMO for a Rule Participant or Facility in relation to the Post-Amended Rules and the form and manner in which the Standing Data referred to in clause 1.54A.2(a) is to be provided to AEMO.

1.1.3   This technical guide supports the completion of the application forms outlined in the following WEM Procedures: Transitional Registration Processes, Rule Participant Registration Processes, and Facility Registration Processes.

1.1.4   Each of the tables below in this document corresponds with WEMS Participant Registration and Facility Registration applications forms and outlines the data fields and specification requirements.

1.2 Application

1.2.1   This document applies to AEMO and Rule Participants who are required to submit Participant Registration or Facility Registration application forms.

1.2.2   All references to rules and procedures relate to the Wholesale Electricity Market (WEM).

1.3 Associated Market Procedures and Market Documents

1.3.1   The following AEMO WEM Documents are associated with this technical guide:

- Participant Registration Processes WEM Procedure
- Facility Registration Processes WEM Procedure
- Transitional Registration Processes
- WEM MPI User Guide
- Excel Application Forms for Facility General Information, Facility Standing Data, Facility Technology Types, Separately Certified Components.

1.4 Further Information

1.4.1 Please contact WA Market Operations and Support for further information regarding the materials contained in this document.

Contact	Telephone	Email
WA Market Operations and Support. Contact number during office hours, after hours, weekends, public and holidays.	1300 989 797 (option 1)	wa.operations@aemo.com.au

2. Participant Registration

2.1   Participant Information – General Information

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Short Name	Person's/Organisation's WEM participant short name as set by AEMO during the participant registration application.	Pre-populated	Text	N/A	2.33.1 (c)
Organisation Name	Legal name of the entity/organisation for this Participant.	Test Box	Text	N/A	2.33.1 (c)
Authorised Person	The person within your entity/organisation who has signing authority for agreements and contracts.	Text Box	Text	N/A	2.33.1 (c)

Other Participant Types	If applicable, select the applicable Participant type:
	  -Meter Data Agent
	  -Non-Trading Participant
	  -Regulator
		Non-mandatory.
		Select Box
			Tick Box	N/A	2.33.1 (b)

Australian Business Number	Entity/organisation's business number identifier registered with the Australian Tax Office.	Text Box	Numeric	N/A	2.33.1 (d)
Mailing Address	Address where all physical correspondence from AEMO to the participant will be sent.	Text Box	Text/ Numeric	N/A	2.33.1 (d)
City/Town	City or Town where the entity/organisation resides.	Text Box	Text	N/A	2.33.1 (d)
State	State where the entity/organisation resides.	Drop down list	Only one option may be selected	N/A	2.33.1 (d)
Postal Code	Post code for the entity/organisation's address.	Text Box	Numeric	N/A	2.33.1 (d)

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Country	Country where the entity/organisation resides.	Drop down list	Only one option may be selected	N/A	2.33.1 (j)
Phone	Phone number of entity/organisation.	Text Box	Numeric	N/A	2.33.1 (c)
Fax	Fax number of entity/organisation.	Text Box	Numeric	N/A	2.33.1 (c)
Email	Email address of authorised person.	Text Box	Text/ Numeric	N/A	2.33.1 (c)
Website	Website address of entity/organisation.	Text Box	Text/ Numeric	N/A	2.33.1 (c)
Main Contact User	The person within your entity/organisation who AEMO will send WEMS related correspondence and user digital certificates.	Drop down list	Only one option may be selected	N/A	2.33.1 (c)

2.2 Participant Information – Financial Information

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Bank Name	Name of entity/organisation's bank.	Text Box	Text	N/A	2.33.1(m)
Branch Name	Branch name of entity/organisation's bank.	Text Box	Text	N/A	2.33.1(m)
Branch Description	Description of entity/organisation's bank branch.	Text Box	Text	N/A	2.33.1(m)
BSB No	Entity/organisation's six-digit number as part of their bank account number that indicates the bank and the branch where the account is held.	Text Box	Numeric	N/A	2.33.1(m)
Branch Address	Entity/organisation's bank branch address.	Text Box	Text/ Numeric	N/A	2.33.1(m)
City/Town	City/ Town of the entity/organisation's bank branch.	Text Box	Text	N/A	2.33.1(m)
State	State that the entity/organisation's bank branch resides.	Drop down list	Only one option may be selected	N/A	2.33.1(m)
Postal Code	Postal Code of entity/organisation's bank branch.	Text Box	Numeric	N/A	2.33.1(m)

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Country	Country the entity/organisation's bank branch resides.	Drop down list	Only one option may be selected	N/A	2.33.1(m)
Phone	Phone number of entity/organisation's bank branch.	Text Box	Numeric	N/A	2.33.1(m)
Fax	Fax number of entity/organisation's bank branch.	Text Box	Numeric	N/A	2.33.1(m)
Austraclear Id	Entity/organisation's Austraclear identification number assigned by Austraclear, which allows AEMO to settle funds in real-time.	Text Box	Text/ Numeric	N/A	2.33.1(l)
Account No	Entity/organisation's bank account number.	Text Box	Numeric	N/A	2.33.1(m)
Account Name	Entity/organisation's bank account name.	Text Box	Text	N/A	2.33.1(m)

2.3   Market Participant Standing Data

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
For each Market Participant, the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be consumed during a Trading Interval by the Market Participant's Registered Facilities and Non-Dispatchable Loads [Appendix 1(a)]	This value is used to set a Market Participant's Portfolio Demand Curve as referenced in Appendix 6 of the WEM Rules, and is the maximum cumulative quantity that a Market Participant is prepared to buy from the Short Term Energy Market (STEM) as referenced in Appendix 6(a)iii. AEMO advises that changes to this value will affect the Market Participant's single STEM Price Curve and the values that are converted into STEM Bids and STEM Offers relative to its Net Bilateral Position, as outlined under Appendix 6. Please note that prior to changing this value that Market Participants should consider testing their STEM submissions relative to this standing data value in a test environment to better under the STEM Bids and STEM Offers process. It should also be noted: • If you were previously registered as Market Generator only in the Balancing Market, then no MWh was attributed and for the purposes of the new Market a value of zero MWh can submitted to effect the same outcome.	Text Box	Numeric	MWh	Appendix 1(a)

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	• This value is shown as "Max Demand Capability (MWh)" as shown in the WEMS MPI Report "EM_PartLimit" • This field is not applicable to the Network Operator Class and Non-Rule Participants. • This value should not be higher than the aggregate Contract Maximum Demand for all the Market Participant's loads. • If the Market Participant does not have any applicable Contract Maximum Demand for their loads, then an estimate of the aggregated maximum consumption (MWh) of their loads will be sufficient.				

3. Facility Registration

3.1 Facility General Information

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
General Facility Information					
Facility Name	The WEMS Facility Code. This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)i.
Facility Owner	The WEMS Participant Code which has a maximum of 9 characters and is set by AEMO during Participant Registration. This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)ii.
Facility Class	Facility class applicable as set out in clause 2.29 of the WEM Rules. This field is set by AEMO during the creation of the candidate facility. This field is pre-populated.	Pre-populated	Text	N/A	2..3.3(c)iv.
Facility Street Address	Street address where the facility is located.	Text Box	Text/ Numeric	N/A	2.33.3(c)v.
City/Town	City or Town where the Facility is located.	Text Box	Text	N/A	2.33.3(c)v.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
State	State where the Facility is located.	Drop down list	Only one option may be selected	N/A	2.33.3(c)v.
Postal Code	Postal Code for the Facility's street address	Text Box	Numeric	N/A	2.33.3(c)v.
Country	Country where the Facility is located.	Drop down list	Only one option may be selected	N/A	2.33.3(c)v.
Associated Intermittent Load	Specifies the Intermittent Load that is associated with the Generation System (where Applicable). This field is set by participants through the Facility General Information Change Request. This field only applies to Scheduled Facilities, Semi-Scheduled Facilities and Non-Scheduled Facilities, and only one load in the drop down menu may be associated. If your Facility is a Non-Dispatchable Load (with or without an intermittent Load), Demand Side Programme or Interruptible Load then this field in not applicable and should be left blank.	Drop down list	Only one option may be selected	N/A	2.30B.5(b)
Registration Sub-Type	This field is only applicable to Scheduled Facility, Semi-Scheduled Facility or Non-Scheduled Facility and used to specify the sub-type of the associated Intermittent Load (if applicable). Specifies the sub-type of Intermittent Load. Sub-type includes: • EG • MIL • REG • SIL The default value is EG for all Facilities that have an Associated Intermittent Load.	Drop down list	Only one option may be selected	N/A	System Requirement
Remote Flag	Denotes if the Scheduled Facility, Semi-Scheduled Facility or Non-Scheduled is located at another connection point that differs from the associated Intermittent Load. If your Facility is a Non-Dispatchable Load (with or without an intermittent Load), Demand Side Programme or Interruptible Load then this field is not applicable.	Tick Box	Yes or No	N/A	2.30B.2(d)

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
NMI	Denotes the national meter identifiers (NMIs) for the Associated Intermittent Load, where the sub-type is MIL. This field is pre-populated. If your Facility is a Non-Dispatchable Load (with or without an intermittent Load), Demand Side Programme or Interruptible Load this field is not applicable.	Pre-populated	Numerical	N/A	Appendix 1(g)i.
Facility Contact Information					
Site Contact Phone (Primary)	Contact number for the site control room or person that is responsible for physical plant operations. The control room or the responsible person must be contactable 24/7. It is the Applicant's responsibility to ensure that incoming calls will be responded to at all times.	Pre-populated	Text	N/A	2.33.3(c)xii.
Site Contact Phone (Backup)	Backup number for the site control room or person that is responsible for physical plant operations. The control room or the responsible person must be contactable 24/7. It is the Applicant's responsibility to ensure that incoming calls will be responded to at all times.	Pre-populated	Text	N/A	2.33.3(c)xii.
Site Email Address (Primary)	Primary email for the site control room or person that is responsible for physical plant operations.	Pre-populated	Text	N/A	2.33.3(c)xii.
Site Email Address (Backup)	Backup email for the site control room or person that is responsible for physical plant operations.	Pre-populated	Text	N/A	2.33.3(c)xii.
Other Facility Registration Information					
Evidence of Arrangement for Access	A copy of the contract with Network Operator to gain access to the network. Given the meaning in the glossary of the WEM Rules.	File Upload	Word or PDF document	N/A	2.33.3(c)xiv.
Details of the operational control over the Facility	Evidence that the communication and control systems required by clause 2.35 of the WEM Rules are in place and operational, including information on the communication systems. A countersigned "Market Communication and Operating Protocol" is AEMO preferred. If your Facility is a Non-Dispatchable Load (with or without an Intermittent Load) or Network Facility then this field is not applicable.	File Upload	A word document or pdf.	N/A	2.33.3.(c)xv.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Commencement Information					
Proposed Current Date of Commencement of Commissioning of the Facility	The Participant's declaration of the proposed start date of commissioning for the facility. Submitted to AEMO in accordance with clause 3.21A of the WEM Rules. If your Facility has previously been commissioned, then this field is not applicable. If your Facility is a Non-Dispatchable Load (with or without an intermittent Load) or Network Facility then this field is not applicable.	Text Box	Numeric or select date from calendar ratio pop-up.	N/A	2.33.3(c)xiii.1
Current Commissioning Test Plan	The latest uploaded Commissioning Test Plan (CTP) of the facility. Submitted to AEMO in accordance with clause 3.21A of the WEM Rules. The CTP should complement the approved GPS Test Procedure and encapsulate as much of the commissioning schedule as practical. If your Facility has previously been commissioned, then this field is not applicable. If your Facility is a Non-Dispatchable Load (with or without an intermittent Load) or Network Facility then this field is not applicable.	File Upload	PDF document	N/A	2.33.3(c)xiii.2

4. Standing Data

4.1   All Facilities – fields common to all Standing Data forms

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Standing Data Change Supporting Evidence Comment	Participant can provide a comment on the reason for the Standing Data change(s) as per clause 2.34.3(b) of the WEM Rules.	Text Box	Text/ Numeric	N/A	2.34.3(b)
Further support documentation	Optional field, that a Participant may use to provide any supporting documentation for their Standing Data application.	File Upload	A word document or pdf.	N/A	System Requirement

4.2   Network

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Facility Name	Name of Facility. This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)i
RoCoF Ride-Through Capability of the Facility as determined by AEMO [Appendix 1(i).]	The Rate of Change of Frequency (RoCoF) Ride-Through Capability of the Facility, expressed in Hz per 500ms as determined by AEMO under clause 2.34A.12C of the WEM Rules. If AEMO has not made a separate determination under paragraph 11.2.6 of the FCESS Accreditation WEM Procedure (link here) then the value of 0.25 Hz over 500ms (RoCoF Safe Limit) must be submitted.	Text Box	Numeric	Hz over 500ms	Appendix 1(i).]

4.3 Scheduled Facility

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Facility Name	The WEMS Facility Code. This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)i
The total nameplate capacity of the Facility's Energy Producing System, expressed in MW [Appendix 1(b)i.]	Name plate capacity of facility, as per the output subject to ratings of any primary plant or equipment. For synchronous generators this is typically the nominal rating of the turbine(s), while non-synchronous is typically the aggregate of downstream plant/inverters. Where ratings are given in apparent power (MVA), this is the real power (MW) equivalent accounting for capability curves.	Text Box	Numeric	MW	Appendix 1(b)i.
The System Size [Appendix 1(b)iii.]	The MW value in accordance with the glossary definition in WEM Rules for System Size.	Text Box	Numeric	MW	Appendix 1(b)iii.
Is the Facility a Small Aggregation [Appendix 1(b)iv.]	Denotes whether the Facility meets the glossary definition in the WEM Rules for Small Aggregation.	Tick Box	Ticked = Yes, Unticked = No		Appendix 1(b)iv.
The maximum sent out capacity of the Facility under optimal conditions, expressed in MW [Appendix 1(b)v.]	Maximum sent-out capacity (for Non-Synergy facilities) or generated capacity (for Synergy facilities where relevant) when operating at optimal conditions.	Text Box	Numeric	MW	Appendix 1(b)v.
The maximum Withdrawal capacity of the Facility under optimal conditions, expressed in MW [Appendix 1(b)vi.]	Maximum capacity withdrawn from the SWIS at the connection point, including any downstream loads such as intermittent or parasitic/auxiliary loads. Capacity withdrawn is at optimal conditions.	Text Box	Numeric	MW	Appendix 1(b)vi.
The dependence of sent out capacity on temperature at the location of the Facility [Appendix 1(b)vii.]	Sent out capacity as a function of temperature at the location of the facility. A separate relationship for each fuel type is required expressed in terms of generated MW.	File Upload	File format to be .csv with the following fields on each line: • facility_identity (character 24), • fuel_type (character 1) – L | N, followed by the following data pairs for each temperature breakpoint:	MW and °C	Appendix 1(b)vii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	Maximum generation details for each 0.1 interval from 0 to 45°C, or higher if specified by the Network Operator based on physical location.		• temperature (real 3:1), • facility_capability (real 6:3) The last pair terminated by carriage return. Note that the first row must be a header row, containing the names of the four columns respectively; facility_identity, fuel_type, temperature, facility_capability. File template can be found on the following link ([here](#))		
The method to be used for determining the ambient temperature at the site of the Facility (where if no method is specified, a constant temperature of 41 degrees Celsius will be assumed) [Appendix 1(b)viii.]	One of the following methods must be chosen: • 41 °C • SCADA • BOM If your Facility is not temperature dependent or comprised of Intermittent Generation Systems only, then a value of 41 °C must be submitted.	Drop Down	Can only select one option	N/A	Appendix 1(b)viii.
Temperature Location	Location of BOM or SCADA temperature station.	Drop Down	Can only select one option For SCADA one of the following: • CKB AMBIENT C • KMP AMBIENT C • MGA AMBIENT C • PJR AMBIENT C For BOM one of the following: Albany Airport, Badgingarra, Bickley, Bunbury, Collie East, Dwellingup, Garden Island HSF, Geraldton Airport 8351, Hopetoun North, Jandakot Aero, Karlgoorlie-Boulder Airport, Mandurah, Pearce RAAF, Perth Airport, Perth Metro, Rottnest Island, Southern Cross Airfield, Swanbourne.	N/A	Appendix 1(b)viii.
Details of any potential energy limits of the Facility [Appendix 1(b)xvi.]	Details of any potential energy limits of the facility. This field is only applicable if AEMO requests specific information from the Rule Participant in relation to permanent	File Upload	Word or Pdf document	N/A	Appendix 1(b)xvi.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	operational limits that has not captured in other registration data fields. It is so that AEMO can develop rules for scheduling plant in case of an emergency or non-standard scenario. (e.g. if the plant has an ancillary load at a different connection point to the main generation equipment, and outages at different substations can impact facility output levels).				
Is the Facility a Fast Start Facility [Appendix 1(b)xvii.]	Denotes whether the Facility meets the definition of a Fast Start Facility under the WEM Rules Glossary.	Tick Box	Ticked = Yes, Unticked = No	N/A	Appendix 1(b)xvii.].
Minimum Synchronisation Time (Cold) [Appendix 1(b)xviii.1.]	Cold synchronisation time. The minimum time to synchronise and be available for dispatch in this "cold" state, as defined by the Elapsed Synchronisation Time (Cold). Refer to Appendix 1 of this guide for more details.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(b)xviii.1.
Elapsed Synchronisation Time (Cold) [Appendix 1(b)xviii.1.]	Number of minutes elapsed for Cold Sync time. This is the time relative to the Facility shutdown, after which the Facility will be considered in the "cold" state for synchronisation purposes. Refer to Appendix 1 of this guide for more details.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(b)xviii.1.
Minimum Synchronisation Time (Warm) [Appendix 1(b)xviii.2.]	Warm synchronisation time. The minimum time to synchronise and be available for dispatch in this "warm" state, as defined by the Elapsed Synchronisation Time (Warm). Refer to Appendix 1 of this guide for more details.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(b)xviii.2.
Elapsed Synchronisation Time (Warm) [Appendix 1(b)xviii.2.]	Number of minutes elapsed for Warm Sync time. This is the time related to the Facility shutdown, after which the Facility will be considered in the "warm" state for synchronisation purposes, until it transitions to the "cold" state. Refer to Appendix 1 of this guide for more details.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(b)xviii.2.
Minimum Synchronisation Time (Hot) [Appendix 1(b)xviii.3.]	Hot synchronisation time. The minimum time to synchronise and be available for dispatch in this "hot" state, as defined by the Elapsed Synchronisation Time (Hot). Refer to Appendix 1 of this guide for more details.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(b)xviii.3.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Elapsed Synchronisation Time (Hot) [Appendix 1(b)xviii.3.]	Number of minutes elapsed for Hot Sync time. This is the time related to the Facility shutdown, after which the Facility will be considered in the "hot" state for synchronisation purposes, until it transitions to the "warm" state. Should not be longer than the Facility's minimum restart time. Refer to Appendix 1 of this guide for more details.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(b)xviii.3.
The sent-out capacity when the Facility is operating at minimum stable loading level, expressed in MW [Appendix 1(b)xx.]	The minimum stable loading level of the generator, expressed in MW for primary Non-Liquid Fuel. It is the technical minimum generating capacity. This is defined as the emergency level. Note that this is generally equal to Minimum Generator Capacity and may be equal or lower than the Minimum Dispatchable Generation. This is generated at 15 °C.	Text Box	Numeric	MW	Appendix 1(b)xx.
The sent-out capacity when the Facility is operating at the minimum dispatchable loading level, expressed in MW [Appendix 1(b)xxi.]	Defined as the emergency level. Note that this is typically equal to Minimum Generator Capacity, however the dispatchable generation could be set higher than the technical minimum generator capacity. This is generated at 15 °C.	Text Box	Numeric	MW	Appendix 1(b)xxi.
The minimum physical response time before the Facility can begin to respond to a Dispatch Instruction, when the Facility is running. [Appendix 1(b)xxii.]	The minimum time before a Facility can respond after receiving an Electronic Dispatch Instruction, when the Facility is running. Refer to Appendix 2 of this guide for more details.	Text Box	Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(b)xxii.
Any output range between minimum dispatchable loading level and nameplate capacity in which the Facility is incapable of stable or safe operation [Appendix 1(b)xxiii.]	Any output ranges between minimum dispatchable loading level and nameplate capacity in which the facility is incapable of stable or safe operation.	File Upload	File format to be .csv with the following fields on each line: • sequence_number (integer 3), • facility_identity (character 24) • fuel_type (character 24) Followed by the following data pairs for each disallowed region: • lower_disallowed_load (real 6:1), • upper_disallowed_load (real 6:1), The last pair determined by carriage return.	MW	Appendix 1(b)xxiii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
			A separate set of data is required for each fuel type. The first line is to indicate the field names as above. File template can be found on the following link (here)		
The minimum load at the connection point of the Facility that will automatically trip off if the Facility fails, expressed in MW [Appendix 1(b)xxiv.]	Refers to parts of the generator unit/station service load which are automatically disconnected by the Participant. Includes unit auxiliary load which is supplied directly from the generator via the unit transformer and station load supplied from the network if disconnected automatically when the generator trips. Participants may need to know how to handle where trippable load is dependent on the unit generated output load.	File Upload	File format to be .csv with each line having the following fields: • generator_sequence_number (integer 3), • generator_identity (character 24), • load_tripped (real 8:3) The first line is to indicate the field names as above. File template can be found on the following link (here)	MW	Appendix 1(b)xxiv.
The sub-transient, transient and steady state impedances (positive, negative and zero sequence) for the Facility [Appendix 1(b)xxv.]	Sub-transient, transient and steady state impedances (positive, negative and zero sequence) for the facility and any other related data required. Positive Impedance for Element. While included, AEMO will generally get this information via access connection information through Generator Performance Standard (GPS) submissions, and therefore should align with the GPS process.	File Upload	Electrical model data - file format to be .csv with the each line in the file having the fields indicated below: • Item_sequence_number (Integer 3), • facility_identity (character 24), • resistance (real 8:5 with exponent), • positive_sequence_steadystate_reactance (real 8:5 with exponent), •positive_sequence_steadystate_susceptance (real 8:5 with exponent), • negative_sequence_reactance(real 8:5 with exponent), • zero_sequence_reactance (real 8:5 with exponent), • sub_transient_reactance (real 8:5 with exponent), • transient_reactance (real 8:5 with exponent) The first line is to indicate the field names as above. File template can be found on the following link (here)	N/A	Appendix 1(b)xxv.
Standing Maximum Upwards Ramp Rate [Appendix 1(b)xxvi.]	Normal ramp up (generated basis).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(b)xxvi.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Standing Maximum Downwards Ramp Rate [Appendix 1(b)xxvii.]	Normal ramp down (generated basis).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(b)xxvii.
Emergency upwards ramp rate [Appendix 1(b)xxviii.]	Emergency Ramp up (generated basis), If Emergency Ramp up is not applicable, provide the normal ramp up rate (generated basis).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(b)xxviii.
Emergency downwards ramp rate [Appendix 1(b)xxix.]	Emergency Ramp down (generated basis). If Emergency Ramp down is not applicable, provide the normal ramp down (generated basis).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(b)xxix.
The overload Injection capacity of the Facility, if any, expressed in MW [Appendix 1(b)xxx.]	The overload Injection capacity of the generator, if any, expressed in MW. Typically, any quantity above the specified nameplate value. If overload Injection capacity is not applicable, provide the Maximum sent-out capacity (for Non-Synergy facilities) or generated capacity (for Synergy facilities) when operating at optimal conditions.	Text Box	Numeric Value must be positive	MW	Appendix 1(b)xxx.
The overload Withdrawal capacity of the Facility, if any, expressed in MW [Appendix 1(b)xxxi.]	The overload Withdrawal capacity of the generator, if any, expressed in MW. Typically any quantity above the specified nameplate value. If overload Withdrawal capacity is not applicable, provide the maximum capacity withdrawn from the SWIS at the connection point, withdrawn is at optimal conditions.	Text Box	Numeric Value must be positive	MW	Appendix 1(b)xxxi.
The AGC capabilities of the Facility [Appendix 1(b)xxxii.]	AGC Capabilities including: -Min loading at which AGC can be provided. - Max loading at which AGC can be provided. - AGC response rate A separate set of data is required for each fuel type. If the Facility does not have AGC capability then:	File Upload	Generated MW/min should not be greater than normal ramp, must not be greater than emergency ramp. File format to be .csv with the following fields on each line: • sequence_number (integer 3), • facility_identity (character 24), • fuel_type (character 24),	MW	Appendix 1(b)xxxii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	• specify if the Facility is Business-to Business (B2B) enabled for 5-minute dispatch; or • has neither AGC nor B2B enable for 5-minute dispatch.		• min_agc_load (real 6:1), The first line is to indicate the field names as above. File template can be found on the following link ([here](#)) OR If the Facility does not have AGC capability then: • specify if the Facility is Business-to Business (B2B) enabled for 5-minute dispatch; or • has neither AGC nor B2B enable for 5-minute dispatch.		
The black start capability of the Facility [Appendix 1(b)xxxiii.]	Details of facilities capability to provide system start capacity.	File Upload	File format to be .csv with each line in the file having the following fields: • Item_sequence_number (integer 3), • generator_id (character 24), • black_start (Boolean 1=yes, 0=no) The first line is to indicate the field names as above. File template can be found on the following link ([here](#))	N/A	Appendix 1(b)xxxiii.
The short circuit capability of Facility equipment [Appendix 1(b)xxxiv.]	Details the circuit fault devices and ratings. The circuit fault devices identity information should match those identified on the Single Line Diagram. (Appendix 1.(b).xxi) Typically, short circuit ratings of primary plant such as circuit breakers are provided at the point of connection and downstream busbar.	File Upload	Data required in kiloamps for each circuit making/breaking device in the generator connection circuit. File format should be .csv with the following fields on each line • sequence_number (integer 3), • facility_identity (character 24), • circuit_fault_make_break_device_identity (character 24), • fault_make_rating (real 8:5 with exponent), • fault_break_rating (real 8:5 with exponent) The first line is to indicate the field names as above. File template can be found on the following link ([here](#))	N/A	Appendix 1(b)xxxiv.
Evidence that the communication and control	The Market Communication and Operating Protocol agreement that outlines that the Facility meets AEMO's	File Upload	A pdf of the countersigned Market Communication and Operating Protocol agreement.	N/A	Appendix 1(b)xxxv.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
systems required by section 2.35 are in place and operational [Appendix 1(b)xxxv.]	communication and control systems requirements under clauses 2.35.1 to clause 2.35.3 of the WEM Rules. A copy of the protocol agreement template may be requested via wa.operations@aemo.com.au				
The single line diagram for the Facility, including the locations of transformers, switches, operational and settlement meters [Appendix 1(b)xxxvi.]	Details the locations of transformers, switches, operational and settlement meters. Same information and format required as for network topology. Any other related data should include generator winding configuration (e.g. connection delta, star, other). Operations data is also required to allow SM to model the connecting network and its equipment capabilities. Data required includes: • circuit ratings in amps calculated as the rating of the lowest rated series connected item of plant in a circuit • circuit high and low voltage limits in kilovolts (kV) – determined from the rating of the equipment comprising the circuit components (e.g. voltage and current transformers, surge diverters, transformers, insulation, etc.). • Fault make/ fault break capability for each circuit making/breaking device in a circuit.	File Upload	AEMO requires clearly labelled single line diagrams in Adobe Acrobat format (.pdf files) and .dxf/.dgn if relevant. Diagrams must include the location of transformers, switches, operation and interval meters (which are to be maintained in the Meter Registry) Diagrams must illustrate the following. Circuit rating: • circuit_identity • circuit_rating_amps (real 8:3), • circuit_high_kvolt_limit (real 8:3), • circuit_low_kvolt_limit (real 8:3) Circuit fault make and break capability: • circuit_identity (character 24), • circuit_fault_make_break_device_identity (character 24), • fault_make_rating (real 8:5 with exponent), • fault_break_rating (real 8:5 with exponent) Diagrams must be kept up to date and revised diagrams with amendments clearly indicated to AEMO in accordance with the WEM Rules.	N/A	Appendix 1(b)xxxvi.
The network node or nodes at which the Facility can connect [Appendix 1(b)xxxvii.]	The network nodes at which the facility can connect (if more than one). If the facility can be connected at more than one connection point, the alternate connection points should be detailed. Note that the primary connection point is entered in the field "Connection Point". For a facility without an alternate connection point, please submit a file with the message "Only 1 connection point for this facility."	File Upload	The name of the network node at which the facility is connected. If facility can connect at more than one node a circuit single line diagram in similar format as the facility single line diagram showing each network connection node and the circuit elements in each connection node. The connection node should include the busbar name, number and section of that busbar if there is more than	N/A	Appendix 1(b)xxxvii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
			one section. The description must be completely unambiguous.		
The Transmission Node Identifier [Appendix 1(b)xxxviii.]	The Transmission Node Identifier for the Facility.	Text Box	4-digit alphanumeric TNI value. If multiple TNIs are applicable then use commas to separate, with a single space.	N/A	Appendix 1(b)xxxviii.
National Meter Identifier (NMI) of each metering point for the Facility, where applicable [Appendix 1(b)xxxix.]	The National Meter Identifier (NMI) of each metering point for the Facility,	Text Box	10-digit NMI value. If multiple NMIs are applicable then use commas to separate, with a single space.	N/A	Appendix 1(b)xxxix.
The Metering Data Agent for the Facility [Appendix 1(b)xl.]	The Metering Data Agent for the facility. One Meter Data Agent must be selected.	Drop down list	Only one option may be selected.	N/A	Appendix 1(b)xl.
FCESS & ROCOF Ride-Through Capability					
Frequency Co-optimised Essential System Service Accreditation Parameters [Appendix 1(h).]	Frequency Co-optimised Essential System Service Accreditation Parameters approved by AEMO. If this field is not applicable, please leave field blank.	File Upload	The FCESS Accreditation Form which has been reviewed and approved by AEMO. This must be in excel format and must be the same version AEMO approved.	N/A	Appendix 1(h).
RoCoF Ride-Through Capability of the Facility as determined by AEMO [Appendix 1(i).]	RoCoF Ride-Through Capability of the Facility as determined by AEMO. If AEMO has not made a separate determination under the FCESS Accreditation WEM Procedure then the value of 0.25 Hz over 500ms (RoCoF Safe Limit) must be submitted. Published RoCoF Ride-Through Capability values are also available in the link (here) under the sheet "Current RoCoF Ride-Through Values"	Text Box	Numeric Value must be positive	Hz over 500ms	Appendix 1(i).
WEMDE and Operational Planning Data					
Normally-on Load	Defines whether AEMO treats this Facility as a normally-on load for the purposes of the Dispatch Algorithm.	Tick Box	Ticked = Yes, Unticked = No	N/A	2.1A.2.(m) and the Market Schedule Procedure.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	A normally-on load is one which is already accounted for in the Forecast Unscheduled Operational Demand, and therefore needs to be flagged to avoid double counting. If you are unsure, please submit "No". AEMO will review your circumstances and notify you if the value should be a "Normally-on Load"				
Storage Constraints	Where there are limitations on the Injection or Withdrawal capability of a Registered Facility based on the Charge Level of associated Electric Storage Resources. If the Facility does not contain an Electric Storage Resource (battery) it can be left unticked.	Tix Box	Ticked = Yes, Unticked = No	N/A	7.5.10 and 7.5.10A
Inertia	The kinetic energy (at nominal frequency) that is extracted from the rotating mass of a machine coupled to the power system to compensate an imbalance in the system frequency. Alternatively, the 'synthetic inertia' provided by non-rotating machines which can be programmed to provide inertia to the system. An example is inverter-based technology. If the Facility does not provide inertia then enter a value of zero. Otherwise, if the Facility does provide inertia, the value should be one of the following: • **If the Facility has been accredited for RoCoF control service,** the value approved by AEMO ; or • If the Facility has not been accredited for RoCoF control service then the inertia value submitted must be reflect the sum of all inertia values in the manufacturer's data sheets for all the generation systems behind the Facility's connection point(s); or • **If neither of the above information is available then to contact wa.operations@aemo.com.au so AEMO can assist in deriving an appropriate value.**	Text Box	Numeric	MWs	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 2.4.2(a))
Tau Factor	The Facility Speed Factor for a Facility, as determined in accordance with the Frequency Co-optimised Essential System Services Accreditation WEM Procedure.	Text Box	Numeric	seconds	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 7.2.1)

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	Published TAU factors are available the link (**here**) under in the sheet "Currently Accredited FCESS Facilities List" and in the column "Facility Speed Factor (τ in sec)" If the Tau Factor / Facility Speed Factor (τ in sec) is not available, then enter "999" in this field.				
Unconstrained Forecasts	This determines where the Unconstrained Forecast Source for the Primary Dispatch Interval or Primary Pre-Dispatch Intervals will come from. AEMO recommends the following forecast types for the respective Facility Classes: • Scheduled Facility, Demand Side Programme and Interruptible Load must specify RTMS • Semi-Scheduled Facility should specify SCADA. • Non-Scheduled Facility should specify Persistence **If you operate a Semi-Scheduled Facility or Non-Scheduled Facility and you would prefer to submit a different forecast type other than that outlined above, you must email wa.operations@aemo.com.au to have AEMO to assess the suitability of an alternate forecast type.**	Drop Down	Can only select one: • RTMS • SCADA • PERSISTENCE	N/A	2.1A.2.(m) and the Market Schedules Procedure.
If the Facility has an Electric Storage Resource, the normal ramp rate upwards whilst withdrawing, expressed as MW/min	Normal ramp up (change towards injection) on as generated basis.	Text Box	Numeric Value must be positive	MW/min	2.1A.2.(m) and Appendix 1(b)xvi.
If the Facility has an Electric Storage Resource, the normal ramp rate downwards whilst withdrawing, expressed as MW/min	Normal ramp down (change towards withdrawal) on as generated basis.	Text Box	Numeric Value must be positive	MW/min	2.1A.2.(m) and Appendix 1(b)xvi.
If the Facility has an Electric Storage Resource, the emergency ramp rate	Emergency Ramp up (change towards injection).	Text Box	Numeric Value must be positive	MW/min	2.1A.2.(m) and Appendix 1(b)xvi.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
upwards whilst withdrawing, expressed as MW/min	If Emergency Ramp up is not applicable, provide the normal ramp up (change towards injection) on as generated basis.				
If the Facility has an Electric Storage Resource, the emergency ramp rate downwards whilst withdrawing, expressed as MW/min	Emergency Ramp down (change towards withdrawal). If Emergency Ramp down is not applicable, provide the normal ramp down (change towards withdrawal) on as generated basis.	Text Box	Numeric Value must be positive	MW/min	2.1A.2.(m) and Appendix 1(b)xvi.
If the Facility has an Electric Storage Resource, the Minimum State of Charge Capacity, expressed as a percentage (%)	State of Charge (%) should be expressed relative to the total usable (dispatchable) storage quantity of the Facility, at optimal conditions, where the usable quantity may be lower than the Facility's nominal capacity.	Text Box	Numeric Value must be positive	%	2.1A.2.(m) and Appendix 1(b)xvi.
If the Facility has an Electric Storage Resource, the Facility's Electric Storage Resource's total MWh capacity	The usable (dispatchable) storage quantity of the Electric Storage Resource, where the usable quantity may be lower than the Facility's nominal capacity.	Text Box	Numeric	MWh	2.1A.2.(m) and Appendix 1(b)xvi.

4.4 Non-Scheduled Facility

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Non-Scheduled Facility					
Facility Name	The WEMS Facility Code. This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)i
The total nameplate capacity of the Facility's Energy Producing System, expressed in MW [Appendix 1(d)i.]	Nameplate capacity of facility, as per the output subject to ratings of any primary plant or equipment. For synchronous generators this is typically the nominal rating of the turbine(s), while non-synchronous is typically the aggregate of downstream plant/inverters. Where ratings are given in apparent power (MVA), this is the real power (MW) equivalent accounting for capability curves.	Text Box	Numeric		Appendix 1(d)i.
The System Size [Appendix 1(d)iii.]	The MW value in accordance with the glossary definition in WEM Rules for System Size.	Text Box	Numeric	MW	Appendix 1(d)iii.
Is the Facility a Small Aggregation [Appendix 1(d)iv.]	Denotes whether the Facility meets the glossary definition in the WEM Rules for Small Aggregation.	Tick Box	Ticked = Yes, Unticked = No	N/A	Appendix 1(d)iv.
The maximum sent out capacity of the Facility under optimal conditions, expressed in MW [Appendix 1(d)v.]	Maximum sent-out capacity (for Non-Synergy facilities) or generated capacity (for Synergy facilities) when operating at optimal conditions.	Text Box	Numeric	MW	Appendix 1(d)v.
The maximum Withdrawal capacity of the Facility under optimal conditions, expressed in MW [Appendix 1(d)vi.]	Maximum capacity withdrawn from the SWIS at the connection point, including any downstream loads such as intermittent or parasitic/auxiliary loads. Capacity withdrawn is at optimal conditions.	Text Box	Numeric	MW	Appendix 1(d)vi.
The dependence of sent out capacity on temperature at the location of the Facility, if applicable [Appendix 1(d)vii.]	Sent out capacity as a function of temperature at the location of the facility. A separate relationship for each fuel type is required expressed in terms of generated MW.	File Upload	File format to be .csv with the following fields on each line: • facility_identity (character 24), • fuel_type (character 1) – L | N, followed by	MW and °C.	Appendix 1(d)vii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	Maximum generation details for each 0.1 interval from 0 to 45°C, or higher if specified by the Network Operator based on physical location.		the following data pairs for each temperature breakpoint: • temperature (real 3:1), • facility_capability (real 6:3) The last pair terminated by carriage return. Note that the first row must be a header row, containing the names of the four columns respectively; facility_identity, fuel_type, temperature, facility_capability. File template can be found on the following link (here) OR If your Facility is comprised of Intermittent Generation Systems only, then a .csv file with the comment "Comprised of Intermittent Generation Systems only" can be submitted.		
The sent-out capacity when the Facility is operating at the minimum dispatchable loading level, expressed in MW [Appendix 1(d)ix.]	Defined as the emergency level. Note that this is typically equal to Minimum Generator Capacity, however the dispatchable generation could be set higher than the technical minimum generator capacity. This is generated at 15 ºC.	Text Box	Numeric	MW	Appendix 1(d)ix
The minimum physical response time before the Facility can begin to respond to a direction from AEMO to change its output when the Facility is running [Appendix 1(d)x.]	Minimum response time before the facility can begin to respond to a direction from AEMO to change its output. Refer to Appendix 2 of this guide for more details.	Text Box	Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(d)x.
The minimum load at the connection point of the Facility that will automatically trip off if the Facility fails, expressed in MW [Appendix 1(d)xi.]	Refers to parts of the generator unit/station service load which are automatically disconnected by the Participant. Includes unit auxiliary load which is supplied directly from the generator via the unit transformer and station load supplied from the network if disconnected automatically when the generator	File Upload	File format to be .csv with each line having the following fields: • generator_sequence_number (integer 3), • generator_identity (character 24), • load_tripped (real 8:3)	MW	Appendix 1(d)xi.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	trips. Participants may need to know how to handle where trippable load is dependent on the unit generated output load.		The first line is to indicate the field names as above. File template can be found on the following link (here)		
Sub-transient, transient and steady state impedances (positive, negative and zero sequence) for the Facility [Appendix 1(d)xii.]	Sub-transient, transient and steady state impedances (positive, negative and zero sequence) for the facility and any other related data required. Positive Impedance for Element. While included, AEMO will generally get this information via access connection information through Generator Performance Standard (GPS) submissions, and therefore should align with the GPS process.	File Upload	Electrical model data - file format to be .csv with the each line in the file having the fields indicated below: • Item_sequence_number (Integer 3), • facility_identity (character 24), • resistance (real 8:5 with exponent), • positive_sequence_steadystate_reactance (real 8:5 with exponent), •positive_sequence_steadystate_susceptance (real 8:5 with exponent), • negative_sequence_reactance(real 8:5 with exponent), • zero_sequence_reactance (real 8:5 with exponent), • sub_transient_reactance (real 8:5 with exponent), • transient_reactance (real 8:5 with exponent) The first line is to indicate the field names as above. File template can be found on the following link (here)	N/A	Appendix 1(d)xii.
Standing Maximum Upwards Ramp Rate [Appendix 1(d)xiii.]	Normal ramp up (generated basis).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(d)xiii.
Standing Maximum Downwards Ramp Rate [Appendix 1(d)xiv.]	Normal ramp down (generated basis).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(d)xiv.
Emergency upwards ramp rate, if applicable [Appendix 1(d)xv.]	Emergency Ramp up (generated basis), If Emergency Ramp up is not applicable, provide the normal ramp up (generated basis).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(d)xv.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Emergency downwards ramp rate, if applicable [Appendix 1(d)xvi.]	Emergency Ramp down (generated basis) If Emergency Ramp down is not applicable, provide the normal ramp down (generated basis).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(d)xvi.
The overload Injection capacity of the Facility, if any, expressed in MW [Appendix 1(d)xvii.]	The overload Injection capacity of the generator, if any, expressed in MW. Typically, any quantity above the specified nameplate value. If overload Injection capacity is not applicable, provide the Maximum sent-out capacity (for Non-Synergy facilities) or generated capacity (for Synergy facilities) when operating at optimal conditions.	Text Box	Numeric Value must be positive	MW	Appendix 1(d)xvii.
The overload Withdrawal capacity of the Facility, if any, expressed in MW [Appendix 1(d)xviii.]	The overload Withdrawal capacity of the generator, if any, expressed in MW. Typically, any quantity above the specified nameplate value. If overload Withdrawal capacity is not applicable, provide the maximum capacity withdrawn from the SWIS at the connection point, withdrawn is at optimal conditions.	Text Box	Numeric Value must be positive	MW	Appendix 1(d)xviii.
The short circuit capability of equipment [Appendix 1(d)xix.]	Details the circuit fault devices and ratings. The circuit fault devices identity information should match those identified on the Single Line Diagram. (Appendix 1.(b).xxi) Typically, short circuit ratings of primary plant such as circuit breakers are provided at the point of connection and downstream busbar.	File Upload	Data required in kiloamps for each circuit making/breaking device in the generator connection circuit. File format should be .csv with the following fields on each line • sequence_number (integer 3), • facility_identity (character 24), • circuit_fault_make_break_device_identity (character 24), • fault_make_rating (real 8:5 with exponent), • fault_break_rating (real 8:5 with exponent) The first line is to indicate the field names as above. File template can be found on the following link (here)	N/A	Appendix 1(d)xix.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Evidence that the communication and control systems required by section 2.35 are in place and operational [Appendix 1(d)xx.]	The Market Communication and Operating Protocol agreement that outlines that the Facility meets AEMO's communication and control systems requirements under clauses 2.35.1 to clause 2.35.3 of the WEM Rules. A copy of the protocol agreement template may be requested via wa.operations@aemo.com.au.	File Upload	A pdf of the countersigned Market Communication and Operating Protocol agreement.	N/A	Appendix 1(d)xx.
The single line diagram for the Facility, including the locations of transformers, switches, operational and settlement meters [Appendix 1(d)xxi.]	Details the locations of transformers, switches, operational and settlement meters. Same information and format required as for network topology. Any other related data should include generator winding configuration (e.g. connection delta, star, other). Operations data is also required to allow AEMO to model the connecting network and its equipment capabilities. Data required includes: • circuit ratings in amps calculated as the rating of the lowest rated series connected item of plant in a circuit • circuit high and low voltage limits in kilovolts (kV) – determined from the rating of the equipment comprising the circuit components (e.g. voltage and current transformers, surge diverters, transformers, insulation, etc.). • Fault make/ fault break capability for each circuit making/breaking device in a circuit.	File Upload	AEMO requires clearly labelled single line diagrams in Adobe Acrobat format (.dxf, .dgn or .pdf files). Diagrams must include the location of transformers, switches, operation and interval meters (which are to be maintained in the Meter Registry) Diagrams must illustrate the following. Circuit rating: • circuit_identity • circuit_rating_amps (real 8:3), • circuit_high_kvolt_limit (real 8:3), • circuit_low_kvolt_limit (real 8:3) Circuit fault make and break capability: • circuit_identity (character 24), • circuit_fault_make_break_device_identity (character 24), • fault_make_rating (real 8:5 with exponent), • fault_break_rating (real 8:5 with exponent) Diagrams must be kept up to date and revised diagrams with amendments clearly indicated to AEMO in accordance with the WEM Rules.	N/A	Appendix 1(d)xxi.
The network node or nodes at which the Facility can connect [Appendix 1(d)xxii.]	The network nodes at which the facility can connect (if more than one).	File Upload	The name of the network node at which the facility is connected. If facility can connect at more than one	N/A	Appendix 1(d)xxii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	If the facility can be connected at more than one connection point, the alternate connection points should be detailed. Note that the primary connection point is entered in the field "Connection Point". For a facility without an alternate connection point, please submit a file with the message "Only 1 connection point for this facility."		node a circuit single line diagram in similar format as the facility single line diagram showing each network connection node and the circuit elements in each connection node. The connection node should include the busbar name, number, and section of that busbar if there is more than one section. The description must be completely unambiguous.		
The Transmission Node Identifier [Appendix 1(d)xxiii.]	The Transmission Node Identifier for the Facility.	Text Box	4-digit alphanumeric TNI value. If multiple TNIs are applicable then use commas to separate, with a single space.	N/A	Appendix 1(d)xxiii.
The National Meter Identifier (NMI) of each metering point for the Facility, where applicable [Appendix 1(d)xxiv.]	The National Meter Identifier (NMI) of each metering point for the Facility,	Text Box	10-digit NMI value. If multiple NMIs are applicable then use commas to separate, with a single space.	N/A	Appendix 1(d)xxiv.
The Metering Data Agent for the Facility [Appendix 1(d)xxv.]	The Metering Data Agent for the facility. One Meter Data Agent must be selected.	Drop down list	Only one option may be selected	N/A	Appendix 1(d)xxv.
FCESS & ROCOF Ride-Through Capability					
Frequency Co-optimised Essential System Service Accreditation Parameters [Appendix 1(h).]	Frequency Co-optimised Essential System Service Accreditation Parameters approved by AEMO. If this field is not applicable, please leave field blank.	File Upload	The FCESS Accreditation Form which has been reviewed and approved by AEMO. This must be in excel format and must be the same version AEMO approved.	N/A	Appendix 1(h).
RoCoF Ride-Through Capability of the Facility as determined by AEMO [Appendix 1(i).]	RoCoF Ride-Through Capability of the Facility as determined by AEMO. If AEMO has not made a separate determination under the FCESS Accreditation WEM Procedure then the value of 0.25 Hz over 500ms (RoCoF Safe Limit) must be submitted.	Text Box	Numeric Value must be positive	Hz over 500ms	Appendix 1(i).

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	Published RoCoF Ride-Through Capability values are also available in the link (here) under the sheet "Current RoCoF Ride-Through Values"				
WEMDE and Operational Planning Data					
Normally-on Load	Defines whether AEMO treats this Facility as a normally-on load for the purposes of the Dispatch Algorithm. A normally-on load is one which is already accounted for in the Forecast Unscheduled Operational Demand, and therefore needs to be flagged to avoid double counting. If you are unsure, please submit "No". AEMO will review your circumstances and notify you if the value should be a "Normally-on Load"	Tick Box	Ticked = Yes, Unticked = No	N/A	2.1A.2.(m) and the Market Schedule Procedure.
Storage Constraints	Where there are limitations on the Injection or Withdrawal capability of a Registered Facility based on the Charge Level of associated Electric Storage Resources. If the Facility does not contain an Electric Storage Resource (battery) it can be left unticked.	Tix Box	Ticked = Yes, Unticked = No	N/A	7.5.10 and 7.5.10A
Inertia	The kinetic energy (at nominal frequency) that is extracted from the rotating mass of a machine coupled to the power system to compensate an imbalance in the system frequency. Alternatively, the 'synthetic inertia' provided by non-rotating machines which can be programmed to provide inertia to the system. An example is inverter-based technology. If the Facility does not provide inertia then enter a value of zero (e.g. wind farms and solar farms typically do not provide inertia). Otherwise, if you Facility does provide inertia, the value should be one of the following:	Text Box	Numeric	MWs	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 2.4.2(a))

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	• **If the Facility has been accredited for RoCoF control service,** the value approved by AEMO ; or • If the Facility has not been accredited for RoCoF control service then the inertia value submitted must be reflect the sum of all inertia values in the manufacturer's data sheets for all the generation systems behind the Facility's connection point(s); or • If neither of the above information is available then to contact wa.operations@aemo.com.au so AEMO can assist in deriving an appropriate value.				
Tau Factor	The Facility Speed Factor for a Facility, as determined in accordance with the Frequency Co-optimised Essential System Services Accreditation WEM Procedure. Published TAU factors are available the link (**here**) under in the sheet "Currently Accredited FCESS Facilities List" and in the column "Facility Speed Factor (τ in sec)" If the Tau Factor / Facility Speed Factor (τ in sec) is not available, then enter "999" in this field.	Text Box	Numeric	N/A	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 7.2.1)
Unconstrained Forecasts	This determines where the Unconstrained Forecast Source for the Primary Dispatch Interval or Primary Pre-Dispatch Intervals will come from: AEMO recommends the following forecast types for the respective Facility Classes: • Scheduled Facility, Demand Side Programme and Interruptible Load must specify RTMS • Semi-Scheduled Facility should specify SCADA.	Drop Down	Can only select one: • RTMS • SCADA • PERSISTENCE	N/A	2.1A.2.(m) and the Market Schedules Procedure.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	• Non-Scheduled Facility should specify Persistence If you operate a Semi-Scheduled Facility or Non-Scheduled Facility and you would prefer to submit a different forecast type other than that outlined above, you must email wa.operations@aemo.com.au to have AEMO assess the suitability of an alternate forecast type.				

4.5 Semi-Scheduled Facility

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Semi-Scheduled Facility					
Facility Name	This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)i
The total nameplate capacity of the Facility's Energy Producing System, expressed in MW [Appendix 1(c)i.]	Nameplate capacity of facility, as per the output subject to ratings of any primary plant or equipment. For synchronous generators this is typically the nominal rating of the turbine(s), while non-synchronous is typically the aggregate of downstream plant/inverters. Where ratings are given in apparent power (MVA), this is the real power (MW) equivalent accounting for capability curves. Further guidance can also be found in the Engineering internal guideline (link here)	Text Box	Numeric	MW	Appendix 1(c)i.
The System Size [Appendix 1(c)iii.]	The MW value in accordance with the glossary definition in WEM Rules for System Size.	Text Box	Numeric	MW	Appendix 1(c)iii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Is the Facility a Small Aggregation [Appendix 1(c)iv.]	Denotes whether the Facility meets the glossary definition in the WEM Rules for Small Aggregation.	Tick Box	Yes or No	N/A	Appendix 1(c)iv.
The maximum sent out capacity of the Facility under optimal conditions, expressed in MW [Appendix 1(c)v.]	Maximum sent-out capacity (for Non-Synergy facilities) or generated capacity (for Synergy facilities) when operating at optimal conditions.	Text Box	Numeric	MW	Appendix 1(c)v.
The maximum Withdrawal capacity of the Facility under optimal conditions, expressed in MW [Appendix 1(c)vi.]	Maximum capacity withdrawn from the SWIS at the connection point, including any downstream loads such as intermittent or parasitic/auxiliary loads, withdrawn is at optimal conditions.	Text Box	Numeric	MW	Appendix 1(c)vi.
The dependence of sent out capacity on temperature at the location of the Facility [Appendix 1(c)vii.]	Sent out capacity as a function of temperature at the location of the facility. A separate relationship for each fuel type is required expressed in terms of generated MW. Maximum generation details for each 0.1 interval from 0 to 45°C, or higher if specified by the Network Operator based on physical location.	File Upload	File format to be .csv with the following fields on each line: • facility_identity (character 24), • fuel_type (character 1) – L	N, followed by the following data pairs for each temperature breakpoint: • temperature (real 3:1), • facility_capability (real 6:3) The last pair terminated by carriage return. Note that the first row must be a header row, containing the names of the four columns respectively; facility_identity, fuel_type, temperature, facility_capability. File template can be found on the following link (here) OR If your Facility is comprised of Intermittent Generation Systems only, then a .csv file with the comment "Comprised of Intermittent Generation Systems only" can be submitted.	MW and °C,	Appendix 1(c)vii.
The method to be used for determining the ambient temperature at the site of the	One of the following methods must be chosen: • 41 ºC	Drop Down	Can only select one option	N/A	Appendix 1(c)viii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Facility (where if no method is specified, a constant temperature of 41 degrees Celsius will be assumed) [Appendix 1(c)viii.]	• SCADA • BOM If your Facility is not temperature dependent or comprised of Intermittent Generation Systems only, then a value of 41 °C must be submitted.				
Temperature Location	Location of BOM or SCADA temperature station	Drop Down	Can only select one option	N/A	Appendix 1(c)viii.
Is the Facility a Fast Start Facility [Appendix 1(c)xvi.]	Denotes whether the Facility meets the definition of Fast Start Facility under the WEM Rules Glossary.	Tick Box	Yes or No	N/A	Appendix 1(c)xvi.
Minimum Synchronisation Time (Cold) [Appendix 1(c)xvii.1.]	Cold synchronisation time. The minimum time to synchronise and be available for dispatch in this "cold" state, as defined by the Elapsed Synchronisation Time (Cold). Refer to Appendix 1 of this guide for more details. If this field is not applicable, please leave field as zero.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(c)xvii.1.
Elapsed Synchronisation Time (Cold) [Appendix 1(c)xvii.1.]	Number of minutes elapsed for Cold Sync time. This is the time relative to the Facility shutdown, after which the Facility will be considered in the "cold" state for synchronisation purposes. Refer to Appendix 1 of this guide for more details. If this field is not applicable, please leave field as zero.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(c)xvii.1.
Minimum Synchronisation Time (Warm) [Appendix 1(c)xvii.2.]	Warm synchronisation time. The minimum time to synchronise and be available for dispatch in this "warm" state, as defined by the Elapsed Synchronisation Time (Warm). Refer to Appendix 1 of this guide for more details. If this field is not applicable, please leave field as zero.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(c)xvii.2.
Elapsed Synchronisation Time (Warm) [Appendix 1(c)xvii.2.]	Number of minutes elapsed for Warm Sync time. This is the time relative to the Facility shutdown, after which the Facility will be considered in the "warm" state for synchronisation purposes, before it transitions to the	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(c)xvii.2.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	"cold" state. Refer to Appendix 1 of this guide for more details. If this field is not applicable, please leave field as zero.				
Minimum Synchronisation Time (Hot) [Appendix 1(c)xvii.3.]	Hot synchronisation time. The minimum time to synchronise and be available for dispatch in this "hot" state, as defined by the Elapsed Synchronisation Time (Hot). Refer to Appendix 1 of this guide for more details. If this field is not applicable, please leave field as zero.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(c)xvii.3.
Elapsed Synchronisation Time (Hot) [Appendix 1(c)xvii.3.]	Number of minutes elapsed for Hot Sync time. This is the time relative to the Facility shutdown, after which the Facility will be considered in the "hot" state for synchronisation purposes, before it transitions to the "warm" state. Refer to Appendix 1 of this guide for more details. Should not be longer than the Facility's minimum restart time. If this field is not applicable, please leave field as zero.	Input Stepper	Numeric and in the following format: Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(c)xvii.3.
The sent-out capacity when the Facility is operating at minimum stable loading level, expressed in MW [Appendix 1(c)xix.]	The minimum stable loading level of the generator, expressed in MW for primary Non-Liquid Fuel. It is the technical minimum generating capacity. This is defined as the emergency level. Note that this is generally equal to Minimum Generator Capacity and may be equal or lower than the Minimum Dispatchable Generation. This is generated at 15 °C.	Text Box	Numeric	MW	Appendix 1(c)xix.
The sent-out capacity when the Facility is operating at the minimum dispatchable loading level, expressed in MW [Appendix 1(c)xx.]	Defined as the emergency level. Note that this is typically equal to Minimum Generator Capacity, however the dispatchable generation could be set higher than the technical minimum generator capacity. This is generated at 15 °C.	Text Box	Numeric	MW	Appendix 1(c)xx.
The minimum physical response time before the Facility can begin to respond to a Dispatch	The minimum time before a Facility receives an electronic dispatch instruction and the Facility actually responding, when the Facility is running.	Text Box	Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(c)xxi.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Instruction, when the Facility is running. [Appendix 1(c)xxi.]	Refer to Appendix 2 of this guide for more details.				
Any output range between minimum dispatchable loading level and nameplate capacity in which the Facility is incapable of stable or safe operation [Appendix 1(c)xxii]	Any output ranges between minimum dispatchable loading level and nameplate capacity in which the facility is incapable of stable or safe operation.	File Upload	File format to be .csv with the following fields on each line: • sequence_number (integer 3), • facility_identity (character 24) • fuel_type (character 24) Followed by the following data pairs for each disallowed region: • lower_disallowed_load (real 6:1), • upper_disallowed_load (real 6:1), The last pair determined by carriage return. A separate set of data is required for each fuel type. The first line is to indicate the field names as above. File template can be found on the following link (here)	MW	Appendix 1(c)xxii
The minimum load at the connection point of the Facility that will automatically trip off if the Facility fails, expressed in MW [Appendix 1(c)xxiii.]	Refers to parts of the generator unit/station service load which are automatically disconnected by the Participant. Includes unit auxiliary load which is supplied directly from the generator via the unit transformer and station load supplied from the network if disconnected automatically when the generator trips. Participants may need to know how to handle where trippable load is dependent on the unit generated output load.	File Upload	File format to be .csv with each line having the following fields: • generator_sequence_number (integer 3), • generator_identity (character 24), • load_tripped (real 8:3) The first line is to indicate the field names as above. File template can be found on the following link (here)	MW	Appendix 1(c)xxiii.
Sub-transient, transient and steady state impedances (positive, negative and zero sequence) for the Facility [Appendix 1(c)xxiv.]	Sub-transient, transient and steady state impedances (positive, negative and zero sequence) for the facility and any other related data required. Positive Impedance for Element While included, AEMO will generally get this information via access connection information through Generator	File Upload	Electrical model data - file format to be .csv with the each line in the file having the fields indicated below: • Item_sequence_number (Integer 3), • facility_identity (character 24), • resistance (real 8:5 with exponent), • ositive_sequence_steadystate_reactance (real 8:5 with exponent), •positive_sequence_steadystate_susceptance (real 8:5 with exponent), • negative_sequence_reactance(real 8:5 with exponent),	N/A	Appendix 1(c)xxiv.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	Performance Standard (GPS) submissions, and therefore should align with the GPS process.		• zero_sequence_reactance (real 8:5 with exponent), • sub_transient_reactance (real 8:5 with exponent), • transient_reactance (real 8:5 with exponent) The first line is to indicate the field names as above. File template can be found on the following link ([here](#))		
Standing Maximum Upwards Ramp Rate [Appendix 1(c)xxv.]	Normal ramp up (generated basis). Where applicable, the ramp rate should align with the Facility's Generator Performance Standard (GPS).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(c)xxv.
Standing Maximum Downwards Ramp Rate [Appendix 1(c)xxvi.]	Normal Ramp down (generated basis) Where applicable, the ramp rate should align with the Facility's Generator Performance Standard (GPS).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(c)xxvi.
Emergency upwards ramp rate [Appendix 1(c)xxvii.]	Emergency Ramp up (generated basis), If Emergency Ramp up is not applicable, provide the normal ramp up (generated basis) Where applicable, the ramp rate should align with the Facility's Generator Performance Standard (GPS).	Text Box	Numeric Value must be positive	MW/min	Appendix 1©xxvii.
Emergency downwards ramp rate [Appendi©(c)xxviii.]	Emergency Ramp down (generated basis) If Emergency Ramp down is not applicable, provide the normal ramp down (generated basis) Where applicable, the ramp rate should align with the Facility's Generator Performance Standard (GPS).	Text Box	Numeric Value must be positive	MW/min	Appendix 1(c)xxviii.
The overload Injection capacity of the Facility, if any, expressed in MW [Appendix 1(c)xxix.]	The overload Injection capacity of the generator, if any, expressed in MW. Typically, any quantity above the specified nameplate value. If overload Injection capacity is not applicable, provide the Maximum sent-out capacity (for Non-Synergy facilities) or generated capacity (for Synergy facilities) when operating at optimal conditions.	Text Box	Numeric Value must be positive	MW	Appendix 1(c)xxix.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
The overload Withdrawal capacity of the Facility, if any, expressed in MW [Appendix 1(c)xxx.]	The overload Withdrawal capacity of the generator, if any, expressed in MW. Typically, any quantity above the specified nameplate value. If overload Withdrawal capacity is not applicable, provide the maximum capacity withdrawn from the SWIS at the connection point, withdrawn is at optimal conditions.	Text Box	Numeric Value must be positive	MW	Appendix 1(c)xxx.
The short circuit capability of Facility equipment [Appendix 1(c)xxxi.]	Details the circuit fault devices and ratings. The circuit fault devices identity information should match those identified on the Single Line Diagram (Appendix 1.(b).xxi) Typically, short circuit ratings of primary plant such as circuit breakers are provided at the point of connection and downstream busbar.	File Upload	Data required in kiloamps for each circuit making/breaking device in the generator connection circuit. File format should be .csv with the following fields on each line • sequence_number (integer 3), • facility_identity (character 24), • circuit_fault_make_break_device_identity (character 24), • fault_make_rating (real 8:5 with exponent), • fault_break_rating (real 8:5 with exponent) The first line is to indicate the field names as above.	N/A	Appendix 1(c)xxxi.
Evidence that the communication and control systems required by section 2.35 are in place and operational [Appendix 1(c)xxxii]	The Market Communication and Operating Protocol agreement that outlines that the Facility meets AEMO's communication and control systems requirements under clauses 2.35.1 to clause 2.35.3 of the WEM Rules. A copy of the protocol agreement template may be requested via wa.operations@aemo.com.au	File Upload	A pdf of the countersigned Market Communication and Operating Protocol agreement.	N/A	Appendix 1(c)xxxii
The single line diagram for the Facility, including the locations of transformers, switches, operational and settlement meters [Appendix 1(c)xxxiii.]	Details the locations of transformers, switches, operational and settlement meters. Same information and format required as for network topology. Any other related data should include generator winding configuration (e.g. connection delta, star, other). Operations data is also required to allow AEMO to model the connecting network and its equipment capabilities.	File Upload	AEMO requires clearly labelled single line diagrams in Adobe Acrobat format (.dxf, .dgn or .pdf files). Diagrams must include the location of transformers, switches, operation and interval meters (which are to be maintained in the Meter Registry) Diagrams must illustrate the following. Circuit rating: • circuit_identity • circuit_rating_amps (real 8:3),	N/A	Appendix 1(c)xxxiii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	Data required includes: • circuit ratings in amps calculated as the rating of the lowest rated series connected item of plant in a circuit • circuit high and low voltage limits in kilovolts (kV) – determined from the rating of the equipment comprising the circuit components (e.g. voltage and current transformers, surge diverters, transformers, insulation, etc.). • Fault make/fault break capability for each circuit making/breaking device in a circuit.		• circuit_high_kvolt_limit (real 8:3), • circuit_low_kvolt_limit (real 8:3) Circuit fault make and break capability: • circuit_identity (character 24), • circuit_fault_make_break_device_identity (character 24), • fault_make_rating (real 8:5 with exponent), • fault_break_rating (real 8:5 with exponent) Diagrams must be kept up to date and revised diagrams with amendments clearly indicated to AEMO in accordance with the WEM Rules.		
The network node or nodes at which the Facility can connect [Appendix 1(c)xxxiv.]	The network nodes at which the facility can connect (if more than one). If the facility can be connected at more than one connection point, the alternate connection points should be detailed. Note that the primary connection point is entered in the field "Connection Point". For a facility without an alternate connection point, please submit a file with the message "Only 1 connection point for this facility."	File Upload	The name of the network node at which the facility is connected. If facility can connect at more than one node a circuit single line diagram in similar format as the facility single line diagram showing each network connection node and the circuit elements in each connection node. The connection node should include the busbar name, number and section of that busbar if there is more than one section. The description must be completely unambiguous.	N/A	Appendix 1(c)xxxiv.
The Transmission Node Identifier [Appendix 1(c)xxxv.]	The Transmission Node Identifier for the Facility.	Text Box	4-digit alphanumeric TNI value. If multiple TNIs are applicable then use commas to separate, with a single space.	N/A	Appendix 1(c)xxxv.
National Meter Identifier (NMI) of each metering point for the Facility, where applicable [Appendix 1(c)xxxvi]	The National Meter Identifier (NMI) of each metering point for the Facility.	Text Box	10-digit NMI value. If multiple NMIs are applicable then use commas to separate, with a single space.	N/A	Appendix 1(c)xxxvi
The Metering Data Agent for the Facility [Appendix 1(c)xxxvii.]	The Metering Data Agent for the facility. One Meter Data Agent must be selected.	Drop down list	Only one option may be selected	N/A	Appendix 1(c)xxxvii.
FCESS & ROCOF Ride-Through Capability					

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Frequency Co-optimised Essential System Service Accreditation Parameters [Appendix 1(h).]	Frequency Co-optimised Essential System Service Accreditation Parameters approved by AEMO. If this field is not applicable, please leave field blank	File Upload	The FCESS Accreditation Form which has been reviewed and approved by AEMO. This must be in excel format and must be the same version AEMO approved.	N/A	Appendix 1(h).
RoCoF Ride-Through Capability of the Facility as determined by AEMO [Appendix 1(i).]	RoCoF Ride-Through Capability of the Facility as determined by AEMO. If AEMO has not made a separate determination under the FCESS Accreditation WEM Procedure then the value of 0.25 Hz over 500ms (RoCoF Safe Limit) must be submitted. Published RoCoF Ride-Through Capability values are also available in the link (here) under the sheet "Current RoCoF Ride-Through Values"	Text Box	Numeric Value must be positive	Hz over 500ms	Appendix 1(i).
WEMDE and Operational Planning Data					
Normally-on Load	Defines whether AEMO treats this Facility as a normally-on load for the purposes of the Dispatch Algorithm. A normally-on load is one which is already accounted for in the Forecast Unscheduled Operational Demand, and therefore needs to be flagged to avoid double counting. If you are unsure, please submit "No". AEMO will review your circumstances and notify you if the value should be a "Normally-on Load"	Tick Box	Ticked = Yes, Unticked = No	N/A	2.1A.2.(m) and the Market Schedule Procedure.
Storage Constraints	Where there are limitations on the Injection or Withdrawal capability of a Registered Facility based on the Charge Level of associated Electric Storage Resources. If the Facility does not contain an Electric Storage Resource (battery) it can be left unticked.	Tix Box	Ticked = Yes, Unticked = No	N/A	7.5.10 and 7.5.10A
Inertia	The kinetic energy (at nominal frequency) that is extracted from the rotating mass of a machine coupled to the power system to compensate an imbalance in the system frequency. Alternatively, the 'synthetic inertia' provided by non-rotating machines which can be programmed to provide	Text Box	Numeric	MWs	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 2.4.2(a))

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	inertia to the system. An example is inverter-based technology. If the Facility does not provide inertia then enter a value of zero (e.g. wind farms and solar farms typically do not provide inertia). Otherwise, if you Facility does provide inertia, the value should be one of the following: • **If the Facility has been accredited for RoCoF control service,** the value approved by AEMO ; or • If the Facility has not been accredited for RoCoF control service then the inertia value submitted must be reflect the sum of all inertia values in the manufacturer's data sheets for all the generation systems behind the Facility's connection point(s); or • If neither of the above information is available then to contact wa.operations@aemo.com.au so AEMO can assist in deriving an appropriate value.				
Tau Factor	The Facility Speed Factor for a Facility, as determined in accordance with the Frequency Co-optimised Essential System Services Accreditation WEM Procedure.	Text Box	Numeric	N/A	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 7.2.1)
Unconstrained Forecasts	This determines where the Unconstrained Forecast Source for the Primary Dispatch Interval or Primary Pre-Dispatch Intervals will come from: AEMO recommends the following forecast types for the respective Facility Classes: • Scheduled Facility, Demand Side Programme and Interruptible Load must specify RTMS • Semi-Scheduled Facility should specify SCADA. • Non-Scheduled Facility should specify Persistence If you operate a Semi-Scheduled Facility or Non-Scheduled Facility and you would prefer to submit a	Drop Down	Can only select one: • RTMS • SCADA PERSISTENCE	N/A	2.1A.2.(m) and the Market Schedules Procedure.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	different forecast type other than that outlined above, you must email wa.operations@aemo.com.au to have AEMO assess the suitability of an alternate forecast type.				
If the Facility has an Electric Storage Resource, the normal ramp rate upwards whilst withdrawing, expressed as MW/min	Normal ramp up (change towards injection) on as generated basis	Text Box	Numeric Value must be positive	MW/min	2.1A.2.(m)
If the Facility has an Electric Storage Resource, the normal ramp rate downwards whilst withdrawing, expressed as MW/min	Normal ramp down (change towards withdrawal) on as generated basis	Text Box	Numeric Value must be positive	MW/min	2.1A.2.(m)
If the Facility has an Electric Storage Resource, the emergency ramp rate upwards whilst withdrawing, expressed as MW/min	Emergency Ramp up (change towards injection) If Emergency Ramp up is not applicable, provide the normal ramp up (change towards injection) on as generated basis.	Text Box	Numeric Value must be positive	MW/min	2.1A.2.(m)
If the Facility has an Electric Storage Resource, the emergency ramp rate downwards whilst withdrawing, expressed as MW/min	Emergency Ramp down (change towards withdrawal) If Emergency Ramp down is not applicable, provide the normal ramp down (change towards withdrawal) on as generated basis.	Text Box	Numeric Value must be positive	MW/min	2.1A.2.(m)
If the Facility has an Electric Storage Resource, the Minimum State of Charge Capacity, expressed as a percentage (%)	State of Charge (%) should be expressed relative to the total usable (dispatchable) storage quantity of the Facility, at optimal conditions, where the usable quantity may be lower than the Facility's nominal capacity. If your Facility does not have an Electric Storage Resource (batter) leave this field blank.	Text Box	Numeric Value must be positive	%	2.1A.2.(m)
If the Facility has an Electric Storage Resource, the Facility's Electric Storage Resource's total MWh capacity	The usable (dispatchable) storage quantity of the Electric Storage Resource, where the usable quantity may be lower than the Facility's nominal capacity. If your Facility does not have an Electric Storage Resource (batter) leave this field blank.	Text Box	Numeric	MWh	2.1A.2.(m)

4.6   Non–Dispatchable Load

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Non-Dispatchable Load					
Facility Name	The WEMS Facility Code. This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)i
Intermittent Load Status	Specify whether the facility is an Intermittent Load. • Non-Dispatchable Load with Intermittent Load status under clause 1.48.2 ("Grandfathered IML") • Non-Dispatchable Load with Intermittent Load status under clause 2.30B.2 ("New IML"); or • Non-Dispatchable Load without Intermittent Load	Drop down	Only one option may be selected	N/A	System Requirement
Intermittent Load Standing Data					
The identity of the metering points measuring the Intermittent Loads [Appendix 1(g)i.]]	The National Meter Identifier (NMI) of each metering points measuring the Intermittent Loads.	Text Box	10-digit NMI value. If multiple NMIs are applicable then use commas to separate, with a single space	N/A	[Appendix 1(g)i.]]
For all metering points identified in Appendix 1(g)i, the aggregated maximum allowed level of Intermittent Load, in MWh per Trading Interval [Appendix 1(g)ii.]	The aggregated maximum allowed level of Intermittent Load behind the metering point(s), expressed in MWh per Trading Interval.	Text Box	Numeric	MWh/Trading Interval	[Appendix 1(g)ii.]
For all metering points identified in Appendix 1(g)i, the aggregated maximum level of net consumption at that meter which is not separately metered, and which is not Intermittent Load, in MWh per Trading Interval [Appendix 1(g)iii.]	The aggregated maximum level of net consumption at that meter which is not separately metered, and which is not Intermittent Load, expressed in MWh per Trading Interval.	Text Box	Numeric	MWh/Trading Interval	[Appendix 1(g)iii.]

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
For all metering point identified in Appendix 1(g)i, the separately metered Energy Producing Systems and Loads behind that meter which are not to be included in the definition of that Intermittent Load [Appendix 1(g)iv.]	For all metering points identified in Appendix 1(g)i. a single line diagram for the Facility, that identifies any separately revenue(tariff) metered Energy Producing Systems and Loads behind that meter which are not to be included in the definition of that Intermittent Load. If there are no separately revenue(tariff) metered Energy Producing Systems and Loads behind the metering points identified in Appendix 1(g)i then this field can be left blank.	File Upload	A word document or pdf.	N/A	Appendix 1(g)iv.
Where the Load or part of the Load is and continues to be deemed to be an Intermittent Load under clause 1.48.2, provide the following: (Grandfathered IML only)					
Anticipated reduction, measured in MW, in the maximum capacity described in clause 2.30B.3(a) when the ambient temperature is 45 degrees Celsius [MR2.30B.3.(b)i.]	Anticipated reduction in the maximum capacity that the generating system can be guaranteed to have available to supply Intermittent Load when the ambient temperature is 45'C.	Text Box	Numeric	MW	2.30B.3.(b)i.
The method to be used for determining the ambient temperature at the site of the Energy Producing System referred to in clause 2.30B.2(a) for the purpose of determining Intermittent Load Refunds. (where if no method is specified, a constant temperature of 41 degrees Celsius will be assumed) [MR2.30B.3.(b)ii.]	One of the following methods must be chosen: • 41 ºC • SCADA • BOM If the Energy Producing System is not temperature dependent, is comprised of Intermittent Generations Systems; or does not have SCADA nor BOM temperature measurements, then a value of 41 ºC must be submitted.	Drop Down	Can only select one option	N/A	2.30B.3.(b)ii.
Temperature Location	Location of BOM or SCADA temperature station	Drop Down	Can only select one option	N/A	2.30B.3.(b)ii.
Nominations of capacity requirements for Intermittent Loads, deemed to be Intermittent Loads under clause 1.48.2, expressed in MW, where the nominated quantity cannot exceed the greater of value defined in clause 4.28.8 (c)i. and 4.28.8 (c)ii. [4.28.8 (c).]	Nominations of capacity requirements for "grandfathered" Intermittent Loads, expressed in MW, where the nominated quantity cannot exceed the greater of value defined in clause 4.28.8 (c)i. and 4.28.8 (c)ii.	Text Box	Numeric	MW	4.28.8 (c).
Intermittent Load Information to be provided under clause 2.30B.3					

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
The maximum capacity in MW, excluding capacity for which Capacity Credits are held, that the Energy Producing System referred to in clause 2.30B.2(a) can be guaranteed to have available to supply Intermittent Load, when it is operated normally at an ambient temperature of 41 degrees Celsius [MR 2.30B.3.(a).]	As per description in the data field.	Text Box	Numeric	MW	2.30B.3.(a)
Details of primary and any alternative fuels, including details and evidence of both firm and non-firm fuel supplies and the factors that determine restrictions on fuel availability that could prevent the Energy Producing System referred to in clause 2.30B.2(a) from operating at its full capacity [MR 2.30B.3(c).]	As per description in the data field.	File Upload	A word document or pdf.	N/A	2.30B.3(c).
Single line diagram which includes details of the Loads and Energy Producing Systems contained within the Facility and any other information AEMO requires to determine whether the Load meets the conditions specified in clause 2.30B2 [MR 2.30B.3(d).]	As per description in the data field.	File Upload	A word document or pdf.	N/A	2.30B.3(d).
The Nominated Excess Capacity [MR 2.30B.3(e).]	In respect of a Facility containing an Intermittent Load, the maximum quantity of Injection (in MW) that the Market Participant intends the Facility to make in any Dispatch Interval, which must not be exceeded in more than 120 Dispatch Intervals within any continuous 12-month period.	Text Box	Numeric	MW	2.30B.3(e).
Declared Sent Out Capacity and any other information AEMO requires to determine the System Size of the Facility [MR 2.30B.3(f).]	The declared sent-out capacity is s the maximum amount of power that the generator has contracted with the Network Operator to export to the network.	File Upload	A word document or pdf.	MW	2.30B.3(f).

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Optional - Information regarding protection schemes at the Facility, including whether the Facility is configured to automatically adjust load or generation where a Contingency Event, or an event behind the relevant connection point, affects the Energy Producing System, and evidence to support that configuration as required in the WEM Procedure referred to in clause 2.29.4N [MR 2.30B.3(g).]	Where a protection scheme has been implemented downstream for an Energy Producing System to manage its net injection/withdrawal, details of how the scheme operates and for which specific conditions is required. Details of contingencies triggering the scheme, operate times, and impact on net output should be specified.	File Upload	A word document or pdf. Including relevant Single Line Diagrams and protection scheme settings.	N/A	2.30B.3(g).
If applicable, I have provided AEMO the instantaneous output or consumption of the Energy Producing System referred to in clause 2.30B.2(a), with separate measurements for each separate electricity producing unit in the Energy Producing System [MR 2.30B.3(h).]	As per description in the data field.	Tick box	Ticked = Yes, Unticked = No	N/A	2.30B.3(h).
Contract Maximum Demand associated with the Facility [MR 2.30B.3(j).]	For a contracted point, means the maximum energy (MW) at which a user is permitted to transfer electricity out of the network.	Text Box	Numeric	MW	2.30B.3(j).
FCESS & ROCOF Ride-Through Capability					
RoCoF Ride-Through Capability of the Facility as determined by AEMO [Appendix 1(i).]	RoCoF Ride-Through Capability of the Facility as determined by AEMO. If AEMO has not made a separate determination under the FCESS Accreditation WEM Procedure then the value of 0.25 Hz over 500ms (RoCoF Safe Limit) must be submitted. Published RoCoF Ride-Through Capability values are also available in the link (here) under the sheet "Current RoCoF Ride-Through Values"	Text Box	Numeric Value must be positive	Hz over 500ms	Appendix 1(i).

4.7   Interruptible Load

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Interruptible Load					
Facility Name	The WEMS Facility Code. This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)i.
Evidence that the communication and control systems required by section 2.35 are in place and operational [Appendix 1(e)i.]	The Market Communication and Operating Protocol agreement that outlines that the Facility meets AEMO's communication and control systems requirements under clauses 2.35.1 to clause 2.35.3 of the WEM Rules. A copy of the protocol agreement template may be requested via wa.operations@aemo.com.au	File Upload	A pdf of the countersigned Market Communications and Operating Protocol agreement.	N/A	Appendix 1(e)i.
Details of the real-time telemetry capabilities [Appendix 1(e)ii.]	Details of telemetry system, including band width, polling frequency etc.	File Upload	A word document or pdf	N/A	Appendix 1(e)ii.
The short circuit capability of Facility equipment [Appendix 1(e)iii.]	Details the circuit fault devices and ratings. The circuit fault devices identity information should match those identified on the Single Line Diagram (Appendix 1.(b).xxi) Typically, short circuit ratings of primary plant such as circuit breakers are provided at the point of connection and downstream busbar.	File Upload	Data required in kiloamps for each circuit making/breaking device in the generator connection circuit. File format should be .csv with the following fields on each line • sequence_number (integer 3), • facility_identity (character 24), • circuit_fault_make_break_device_identity (character 24), • fault_make_rating (real 8:5 with exponent), • fault_break_rating (real 8:5 with exponent) The first line is to indicate the field names as above. File template can be found on the following link (here)	N/A	Appendix 1(e)iii.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
The single line diagram for the Facility, including the locations of transformers, switches, operational and settlement meters, if applicable [Appendix 1(e)iv.]	Details the locations of transformers, switches, operational and settlement meters. Same information and format required as for network topology. Any other related data should include generator winding configuration (e.g. connection delta, star, other). Operations data is also required to allow AEMO to model the connecting network and its equipment capabilities. Data required includes: • circuit ratings in amps calculated as the rating of the lowest rated series connected item of plant in a circuit • circuit high and low voltage limits in kilovolts (kvolt) – determined from the rating of the equipment comprising the circuit components (e.g. voltage and current transformers, surge diverters, transformers, insulation, etc.). • Fault make/ fault break capability for each circuit making/breaking device in a circuit.	File Upload	AEMO requires clearly labelled single line diagrams in Adobe Acrobat format (.dxf, .dgn or .pdf files). Diagrams must include the location of transformers, switches, operation and interval meters (which are to be maintained in the Meter Registry) Diagrams must illustrate the following. Circuit rating: • circuit_identity • circuit_rating_amps (real 8:3), • circuit_high_kvolt_limit (real 8:3), • circuit_low_kvolt_limit (real 8:3) Circuit fault make and break capability: • circuit_identity (character 24), • circuit_fault_make_break_device_identity (character 24), • fault_make_rating (real 8:5 with exponent), • fault_break_rating (real 8:5 with exponent) Diagrams must be kept up to date and revised diagrams with amendments clearly indicated to AEMO in accordance with the WEM Rules.	N/A	Appendix 1(e)iv.
The network nodes at which the Associated Loads of the Facility can connect [Appendix 1(e)v.]	The network nodes at which the facility can connect (if more than one). If the facility can be connected at more than one connection point, the alternate connection points should be detailed. Note that the primary connection point is entered in the field "Connection Point". For a facility without an alternate connection point, please submit a file with the message "Only 1 connection point for this facility."	File Upload	The name of the network node at which the facility is connected. If facility can connect at more than one node a circuit single line diagram in similar format as the facility single line diagram showing each network connection node and the circuit elements in each connection node. The connection node should include the busbar name, number, and section of that busbar if there is more than one section. The description must be completely unambiguous.	N/A	Appendix 1(e)v.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
The Transmission Node Identifier [Appendix 1(e)vi.]	The Transmission Node Identifier for the Facility	Text Box	4-digit alphanumeric TNI value. If multiple TNIs are applicable then use commas to separate, with a single space.	N/A	Appendix 1(e)vi.
WEMDE & Operational Planning Data					
Normally-on Load	Defines whether AEMO treats this Facility as a normally-on load for the purposes of the Dispatch Algorithm. A normally-on load is one which is already accounted for in the Forecast Unscheduled Operational Demand, and therefore needs to be flagged to avoid double counting.\n\nFor an Interruptible Load this must be unticked.	Tick Box	Ticked = Yes, Unticked = No	N/A	2.1A.2.(m) and the Market Schedule Procedure.
Storage Constraints	Where there are limitations on the Injection or Withdrawal capability of a Registered Facility based on the Charge Level of associated Electric Storage Resources.\n\nFor an Interruptible Load this must be unticked.	Tix Box	Ticked = Yes, Unticked = No	N/A	7.5.10 and 7.5.10A
Inertia	The kinetic energy (at nominal frequency) that is extracted from the rotating mass of a machine coupled to the power system to compensate an imbalance in the system frequency.\n\nAlternatively, the 'synthetic inertia' provided by non-rotating machines which can be programmed to provide inertia to the system. An example is inverter-based technology.\n\nFor an Interruptible Load this must be zero.	Text Box	Numeric	MWs	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 2.4.2(a))
Tau Factor	The Facility Speed Factor for a Facility, as determined in accordance with the Frequency Co-optimised Essential System Services Accreditation WEM Procedure; or if it has not undergone the Accreditation process the value must be "999".	Text Box	Numeric	N/A	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 7.2.1)
Unconstrained Forecasts	This determines where the Unconstrained Forecast Source for the Primary Dispatch Interval or Primary Pre-Dispatch Intervals will come from:\n\nFor an Interruptible Load this must be RTMS.	Drop Down	Can only select one:\n\n• RTMS\n\n• SCADA\n\n• PERSISTENCE	N/A	2.1A.2.(m) and the Market Schedules Procedure.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
FCESS & ROCOF Ride-Through Capability					
Frequency Co-optimised Essential System Service Accreditation Parameters [Appendix 1(h).]	Frequency Co-optimised Essential System Service Accreditation Parameters approved by AEMO.	File Upload	The FCESS Accreditation Form which has been reviewed and approved by AEMO. This must be in excel format and must be the same version AEMO approved.	N/A	Appendix 1(h).
NDL Association information for clause 2.29.5					
NDL Association form for Interruptible Load [2.29.5B.]		File Upload	Excel	N/A	2.29.5B.
Evidence that the Market Participant owns the Non-Dispatchable Load or has entered into a contract with the person who owns, operates or controls the Non-Dispatchable Load [2.29.5B(a).]	As per the description in the data field.	File Upload	Zip folder attachment. That will contain multiple PDFs (1 per Non-Dispatchable Load) in the zipped attachment. For each PDF name it after 10-digit NMI of the Non-Dispatchable Load.	N/A	2.29.5B(a).

4.8   Demand Side Programme

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Demand Side Programme					
Facility Name	The WEMS Facility Code. This field is pre-populated.	Pre-populated	Text	N/A	2.33.3(c)i.
The maximum number of hours per day that the Facility will be available to provide Reserve Capacity if issued a Dispatch Instruction [Appendix 1(f)i.]	As per the data field description.	Text Box	Numeric between 0 and 24	Hours	Appendix 1(f)i.
For Business Days, the start interval of availability for dispatch (Appendix 1.(f).ii)	For Business Days, the start of the interval time the DSP is available for dispatch, recorded as 24HH:MM.	Input Stepper	Hour, Minute	Minutes	Appendix 1.(h).ix
For Business Days, the end interval of availability for dispatch (Appendix 1.(f).ii)	For Business Days, the end of the interval time the DSP is available for dispatch, recorded as 24HH:MM.	Input Stepper	Hour, Minute	Minutes	Appendix 1.(h).ix
For Non-Business Days, the start interval of availability for dispatch (Appendix 1.(f).ii)	For Non-Business Days, the start of the interval time the DSP is available for dispatch, recorded as 24HH:MM.	Input Stepper	Hour, Minute	Minutes	Appendix 1.(h).ix
For Non-Business Days, the end interval of availability for dispatch (Appendix 1.(f).ii)	For Non-Business Days, the end of the interval time the DSP is available for dispatch, recorded as 24HH:MM.	Input Stepper	Hour, Minute	Minutes	Appendix 1.(h).ix
Any restrictions on the availability of the Demand Side Programme (Appendix 1.(f).iii)	Details of any restrictions of the facility. Only information not already recorded in Appendix 1(h) should be included. This information must match any restrictions recorded during RC certification.	File Upload	A word document or pdf.	N/A	Appendix 1.(h).x

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
The minimum notice period (in minutes) required for dispatch under clause 7.6.15 of the Facility [Appendix 1(f)iv.]	The minimum response time before the Demand Side Programme can begin to respond to an instruction from AEMO to change its output.	Text Box	Numeric between 0 and 120	Minutes	Appendix 1(f)iv.
Evidence that the communication and control systems required by clause 2.35 are in place and operational [Appendix 1(f)v.]	The Market Communications and Operating Protocol agreement that outlines that the Facility meets AEMO's communication and control systems requirements under clauses 2.35.1 to clause 2.35.3 of the WEM Rules. A copy of the protocol agreement template may be requested via wa.operations@aemo.com.au	File Upload	A pdf of the countersigned Market Communication and Operating Protocol agreement.	N/A	Appendix 1(f)v.
Details of the real-time telemetry capabilities of the Facility [Appendix 1(f)vi.]	The details of the real-time telemetry capabilities of the Facility.	File Upload	A word document or pdf.	N/A	Appendix 1.(h).viii
The Transmission Node Identifier [Appendix 1 (f)vii.]	The Transmission Node Identifier for the Facility.	Text Box	4-digit alphanumeric TNI value. If multiple TNIs are applicable then use commas to separate, with a single space.	N/A	Appendix 1 (f)vii.
WEMDE & Operational Planning Data					
Normally-on Load	Defines whether AEMO treats this Facility as a normally-on load for the purposes of the Dispatch Algorithm. A normally-on load is one which is already accounted for in the Forecast Unscheduled Operational Demand, and therefore needs to be flagged to avoid double counting. For a Demand Side Programme this must be unticked.	Tick Box	Ticked = Yes, Unticked = No	N/A	2.1A.2.(m) and the Market Schedule Procedure.
Storage Constraints	Where there are limitations on the Injection or Withdrawal capability of a Registered Facility based on the Charge Level of associated Electric Storage Resources. For a Demand Side Programme this must be unticked.	Tix Box	Ticked = Yes, Unticked = No	N/A	7.5.10 and 7.5.10A

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Inertia	The kinetic energy (at nominal frequency) that is extracted from the rotating mass of a machine coupled to the power system to compensate an imbalance in the system frequency. Alternatively, the 'synthetic inertia' provided by non-rotating machines which can be programmed to provide inertia to the system. An example is inverter-based technology. For a Demand Side Programme this must be zero.	Text Box	Numeric	MWs	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 2.4.2(a))
Tau Factor	The Facility Speed Factor for a Facility, as determined in accordance with the Frequency Co-optimised Essential System Services Accreditation WEM Procedure. For a Demand Side Programme this must be "999"	Text Box	Numeric	N/A	2.1A.2.(m) and the WEM Procedure: FCESS Accreditation (paragraph 7.2.1)
Unconstrained Forecasts	This determines where the Unconstrained Forecast Source for the Primary Dispatch Interval or Primary Pre-Dispatch Intervals will come from: For a Demand Side Programme this must be RTMS.	Drop Down	Can only select one: • RTMS • SCADA • PERSISTENCE	N/A	2.1A.2.(m) and the Market Schedules Procedure.

5. Reserve Capacity

5.1 Reserve Capacity Status

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Reserve Capacity Status					
Reserve Capacity Facility Status	This field determines the status of the facility for the purposes of the Reserve Capacity Mechanism. By default this box is set to "Proposed" when a facility is created.	Drop down list	Only one option may be selected	N/A	Appendix 1 - Market Procedure for Declaration of Bilateral Trades

5.2 Current Effective and Future Approved Facility Reserve Capacity Temperature Information

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Current Effective and Future Approved Facility Reserve Capacity Temperature Information					
Reference Number	Internal reference for each Reserve Capacity Temperature Information Application / Change Request. This field is set and cannot be changed.	Set field	Numeric	N/A	System Requirement
Date Submitted	Date and time reference for each Reserve Capacity Temperature Information Application / Change Request. This field is set and cannot be changed.	Set field	Numeric	DD/MM/YYYY	System Requirement
Application / Change Request Type	Information on the type of Application / Change Request submitted by participant. This field is set and cannot be changed.	Set field	Text	N/A	System Requirement

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Effective Date	Date each respective Reserve Capacity Temperature Information Application / Change Request is to become effective. This field is set and cannot be changed.	Set field	Numeric	DD/MM/YYYY	System Requirement
Status	Status of each Reserve Capacity Temperature Information Application / Change Request. This field is set and cannot be changed.	Set field	Text	N/A	System Requirement

5.3   Facility Reserve Capacity Temperature Information

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Facility Reserve Capacity Temperature Information					
Reserve Capacity Temperature Method	Displays the Reserve Capacity Temperature Method to be used in Reserve Capacity Obligation Quantity calculations and for Reserve Capacity Testing. This field is compulsory and one option must be selected: - BOM - SCADA - 41'C If the Energy Producing System is not temperature dependent or does not have SCADA nor BOM temperature measurements, then a value of 41 ºC must be submitted.	Drop down list	Only one option may be selected	N/A	Clause of the WEM Rules 4.12.5.
RCOQ Temperature Location	Displays the RCOQ Temperature Location for the Facility. This field is available only if SCADA or BOM are selected as the Facility's Reserve Capacity Temperature Method. Participants must select one location from the menu.	Drop down list	Only one option may be selected	N/A	Clause of the WEM Rules 4.12.5.

6. Facility Technology Type

6.1   Scheduled Facility

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Facility Technology Type Standing Data					
The nameplate capacity of each Facility Technology Type in the Facility, excluding Loads. • Non-Intermittent Generating System • Intermittent Generating System • Electric Storage Resource	Nameplate capacity of facility, as per the output subject to ratings of any primary plant or equipment. For synchronous generators this is typically the nominal rating of the turbine(s), while non-synchronous is typically the aggregate of downstream plant/inverters. Where ratings are given in apparent power (MVA), this is the real power (MW) equivalent accounting for capability curves.	Text Box	Numeric	MW	Appendix 1(b)ii.
The maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network for the following Facility Technology Types in the Facility under optimal conditions, expressed in MW: • Non-Intermittent Generating System • Intermittent Generating System • Electric Storage Resource	Maximum sent-out capacity for each of the specified Facility Technology Types.	Text Box	Numeric	MW	Appendix 1(b)vA. Appendix 1(b)vB. Appendix 1(b)vC.
The maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply across the Electric Storage Resource Obligation Duration to the relevant Network from Electric Storage Resources in the Facility under optimal conditions, expressed in MW. [Appendix 1(b)vD.]	Only applicable if the Facility has an Electric Storage Resource (battery). If not applicable leave blank. Noting degradation of Electric Storage Resource capacity can occur, participants are recommended to update this value at least annually.	Text Box	Numeric	MW	Appendix 1(b)vD
Details of the fuel or fuels that each Non-Intermittent Generating System in the Facility can use, including dual fuel capabilities and the process for changing fuels. [Appendix 1(b)xiv.]	If the facility is multi-fuel, list fuels and provide information for AEMO to understand limitations and direct the facility under emergency conditions, e.g: • lead time requirements, change over duration, requirement for the facility to de-synchronise, maintain certain output level, limit operation (duration) under alternative fuel type • approach to initiating a change over.	File Upload	A word document or pdf.	N/A	Appendix 1(b)xiv

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
	If the facility is a single fuel facility then a file a with commentary such as "No dual fuel capability or relevant changeover processes" If the facility is has no fuel (e.g. solar, wind, hydro, battery) then the field can be left "blank"				
The dependence of capacity on the type of fuel used by each Non-Intermittent Generating System in the Facility for each fuel described in Appendix 1(b)(xiv). [Appendix 1(b)xv.]	AEMO advises to left this field blank, as we can refer to data provided under (t)he dependence of sent out capacity on temperature at the location of the Facility [Appendix 1(b)vii.]	File upload	N/A	MW	Appendix 1(b)xv.
The minimum time before each Facility Technology Type in the Facility can be restarted after it is shut down, excluding Loads. • Non-Intermittent Generating System • Intermittent Generating System • Electric Storage Resource	As per description in the data field. If a field is not applicable please leave value as zero.	Input Stepper	Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(b)xix.

6.2   Semi-Scheduled Facility

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
The nameplate capacity of each Facility Technology Type in the Facility, excluding Loads. • Non-Intermittent Generating System • Intermittent Generating System • Electric Storage Resource	Nameplate capacity of facility, as per the output subject to ratings of any primary plant or equipment. For synchronous generators this is typically the nominal rating of the turbine(s), while non-synchronous is typically the aggregate of downstream plant/inverters. Where ratings are given in apparent power (MVA), this is the real power (MW) equivalent accounting for capability curves.	Text Box	Numeric	MW	Appendix 1(c)ii
The maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network for	Maximum sent-out capacity for each of the specified Facility Technology Types.	Text Box	Numeric	MW	Appendix 1(c)vA. Appendix 1(c)vB.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
the following Facility Technology Types in the Facility under optimal conditions, expressed in MW: • Non-Intermittent Generating System • Intermittent Generating System • Electric Storage Resource					Appendix 1(c)vC.
The maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply across the Electric Storage Resource Obligation Duration to the relevant Network from Electric Storage Resources in the Facility under optimal conditions, expressed in MW. [Appendix 1(c)vD.]	Only applicable if the Facility has an Electric Storage Resource (battery). If not applicable leave blank. Noting degradation of Electric Storage Resource capacity can occur, participants are recommended to update this value at least annually.	Text Box	Numeric	MW	Appendix 1(c)vD.
Details of the fuel or fuels that each Non-Intermittent Generating System in the Facility can use, including dual fuel capabilities and the process for changing fuels. [Appendix 1(c)xv.]	If the facility is multi-fuel, list fuels and provide information for AEMO to understand limitations and direct the facility under emergency conditions, e.g: • lead time requirements, change over duration, requirement for the facility to de-synchronise, maintain certain output level, limit operation (duration) under alternative fuel type • approach to initiating a change over. If the facility is a single fuel facility then a file a with commentary such as "No dual fuel capability or relevant changeover processes" If the facility has no fuel (e.g. solar, wind, hydro, battery) then the field can be left "blank"	File Upload	A word document or pdf.	N/A	Appendix 1(c)xv.
The dependence of capacity on the type of fuel used by each Non-Intermittent Generating System in the Facility for each fuel described in Appendix 1(b)(xiv). [Appendix 1(b)xv.]	AEMO advises to left this field blank, as we can refer to data provided under (t)he dependence of sent out capacity on temperature at the location of the Facility [Appendix 1(c)vii.]	File upload	N/A	MW	Appendix 1(b)xv.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
The minimum time before each Facility Technology Type in the Facility can be restarted after it is shut down, excluding Loads. • Non-Intermittent Generating System • Intermittent Generating System • Electric Storage Resource	As per description in the data field.	Input Stepper	Days, Hours, Minutes, Seconds	Refer to Format	Appendix 1(c)xviii.

6.3   Non-Scheduled Facility

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
The nameplate capacity of each Facility Technology Type in the Facility, excluding Loads. • Non-Intermittent Generating System • Intermittent Generating System • Electric Storage Resource	Nameplate capacity of facility, as per the output subject to ratings of any primary plant or equipment. For synchronous generators this is typically the nominal rating of the turbine(s), while non-synchronous is typically the aggregate of downstream plant/inverters. Where ratings are given in apparent power (MVA), this is the real power (MW) equivalent accounting for capability curves.	Text	Numeric	MW	Appendix 1(d)ii.
The maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network for the following Facility Technology Types in the Facility under optimal conditions, expressed in MW: • Non-Intermittent Generating System • Intermittent Generating System • Electric Storage Resource	Maximum sent-out capacity for each of the specified Facility Technology Types.	Text Box	Numeric	MW	Appendix 1(d)vA. Appendix 1(d)vB. Appendix 1(d)vC.
The maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply across the Electric Storage Resource Obligation Duration to the relevant	Only applicable if the Facility has an Electric Storage Resource (battery). If not applicable leave blank.	Text Box	Numeric	MW	Appendix 1(d)vD.

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Network from Electric Storage Resources in the Facility under optimal conditions, expressed in MW. [Appendix 1(d)vD.]	Noting degradation of Electric Storage Resource capacity can occur, participants are recommended to update this value at least annually.				
Details of the fuel or fuels that each Non-Intermittent Generating System in the Facility can use, including dual fuel capabilities and the process for changing fuels. [Appendix 1(d)viii.]	If the facility is multi-fuel, list fuels and provide information for AEMO to understand limitations and direct the facility under emergency conditions, e.g: • lead time requirements, change over duration, requirement for the facility to de-synchronise, maintain certain output level, limit operation (duration) under alternative fuel type • approach to initiating a change over. If the facility is a single fuel facility then a file a with commentary such as "No dual fuel capability or relevant changeover processes" If the facility has no fuel (e.g. solar, wind, hydro, battery) then the field can be left "blank"	File Upload	A word document or pdf.	N/A	Appendix 1(d)viii.

7. Separately Certified Component

7.1   Scheduled Facility

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
If the Facility has a Separately Certified Component that is a Non-Intermittent Generating System, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be	As per description in the data field.	Tick Box	Ticked = Yes, Unticked = No	N/A	Appendix 1(b)ix.1 Appendix 1(b)ix.2

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
available for supply to the relevant Network from the Non-Intermittent Generating System when it is operated normally at an ambient temperature of:					
41 degrees Celsius [Appendix 1(b)ix.1.]	the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Non-Intermittent Generating System when it is operated normally at an ambient temperature of 41 degrees Celsius	Text Box	Numeric	MW	Appendix 1(b)ix.1.
45 degrees Celsius [Appendix 1(b)ix.2.]	the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Non-Intermittent Generating System when it is operated normally at an ambient temperature of 45 degrees Celsius	Text Box	Numeric	MW	Appendix 1(b)ix.2.
If the Facility has a Separately Certified Component that is a Non-Intermittent Generating System, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Non-Intermittent Generating System under optimal conditions. [Appendix 1(b)x.]	As per description in the data field. If a field is not applicable please leave value as zero.	Text Box	Numeric	MW	Appendix 1(b)x.
If the Facility has a Separately Certified Component that is an Intermittent Generating System, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Intermittent Generating System under optimal conditions, expressed in MW. [Appendix 1(b)xA.]	As per description in the data field. If a field is not applicable please leave value as zero.	Text Box	Numeric	MW	Appendix 1(b)xA
If the Facility has a Separately Certified Component that is an Electric Storage Resource, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Electric Storage Resource when it is operated normally at an ambient temperature of:	As per description in the data field.	Tick box	Ticked = Yes, Unticked = No	MW	Appendix 1(b)xi.1. Appendix 1(b)xi.2.

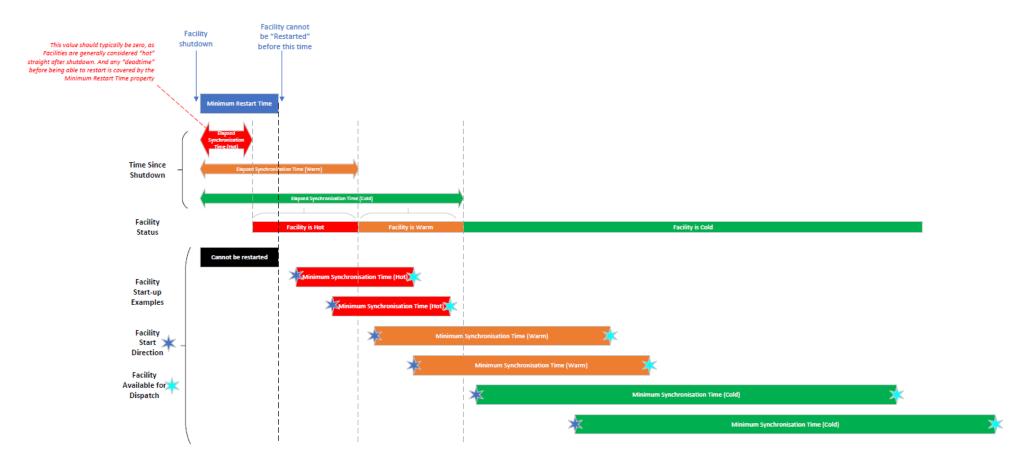| Data Field	Description	Field type	Format	Units	WEM Rule Requirement
*41 degrees Celsius [Appendix 1(b)xi.1.]	If the Facility has a Separately Certified Component that is an Electric Storage Resource, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Electric Storage Resource when it is operated normally at an ambient temperature of 41 degrees Celsius.	Text Box	Numeric	MW	Appendix 1(b)xi.1.
*45 degrees Celsius [Appendix 1(b)xi.2.]	If the Facility has a Separately Certified Component that is an Electric Storage Resource, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Electric Storage Resource when it is operated normally at an ambient temperature of 45 degrees Celsius.	Text Box	Numeric	MW	Appendix 1(b)xi.2.
*If the Facility has a Separately Certified Component that is an Electric Storage Resource, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply across the Electric Storage Resource Obligation Duration, to the relevant Network from the Electric Storage Resource under optimal conditions, expressed in MW. [Appendix 1(b)xii.]	Only applicable if the Facility has an Electric Storage Resource (battery). If not applicable leave blank. Noting degradation of Electric Storage Resource capacity can occur, participants are recommended to update this value at least annually.	Text Box	Numeric	MW	Appendix 1(b)xii.
*If the Facility has a Separately Certified Component that is an Electric Storage Resource, the minimum Charge Level capability of the Electric Storage Resource. [Appendix 1(b)xiii.]	The minimum charge level in MWh is used in the refund calculation in clause 4.26.1F. Please note AEMO expects the value to be consistent with the minimum charge level provided under the respective Reserve Capacity certification process under clause 4.10.1(fA). If this field is not applicable please leave value as zero.	Text Box	Numeric	MWh	Appendix 1(b)xiii.

7.2   Semi-Scheduled Facility

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
If the Facility has a Separately Certified Component that is a Non-Intermittent Generating System, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Non-Intermittent Generating System when it is operated normally at an ambient temperature of:	As per description in the data field.	Tick Box	Ticked = Yes, Unticked = No	MW	Appendix 1(c)ix.1. Appendix 1(c)ix.2.
*41 degrees Celsius [Appendix 1(c)ix.1.]	the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Non-Intermittent Generating System when it is operated normally at an ambient temperature of 41 degrees Celsius.	Text Box	Numeric	MW	Appendix 1(c)ix.1.
*45 degrees Celsius [Appendix 1(c)ix.2.]	the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Non-Intermittent Generating System when it is operated normally at an ambient temperature of 45 degrees Celsius.	Text Box	Numeric	MW	Appendix 1(c)ix.2.
If the Facility has a Separately Certified Component that is a Non-Intermittent Generating System, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Non-Intermittent Generating System under optimal conditions. [Appendix 1(c)x.]	As per description in the data field. If this field is not applicable please leave value as zero.	Text Box	Numeric	MW	Appendix 1(c)x.
If the Facility has a Separately Certified Component that is an Intermittent Generating System, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Intermittent Generating System under optimal conditions, expressed in MW. [Appendix 1(c)xA.]	As per description in the data field. If this field is not applicable please leave value as zero.	Text Box	Numeric	MW	Appendix 1(c)xA.
If the Facility has a Separately Certified Component that is an Electric Storage Resource, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Electric Storage	As per description in the data field.	Tick box	Ticked = Yes, Unticked = No	MW	

Data Field	Description	Field type	Format	Units	WEM Rule Requirement
Resource when it is operated normally at an ambient temperature of:					
*41 degrees Celsius [Appendix 1(c)xi.1.]	If the Facility has a Separately Certified Component that is an Electric Storage Resource, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Electric Storage Resource when it is operated normally at an ambient temperature of 41 degrees Celsius.	Text Box	Numeric	MW	Appendix 1(c)xi.1.
*45 degrees Celsius [Appendix 1(c)xi.2.]	If the Facility has a Separately Certified Component that is an Electric Storage Resource, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply to the relevant Network from the Electric Storage Resource when it is operated normally at an ambient temperature of 45 degrees Celsius.	Text Box	Numeric	MW	Appendix 1(c)xi.2.
*If the Facility has a Separately Certified Component that is an Electric Storage Resource, the maximum sent out capacity, net of embedded and Parasitic Loads, that can be available for supply across the Electric Storage Resource Obligation Duration, to the relevant Network from the Electric Storage Resource under optimal conditions, expressed in MW. [Appendix 1(c)xii.]	As per description in the data field. If this field is not applicable please leave value as zero.	Text Box	Numeric	MW	Appendix 1(c)xii.
*If the Facility has a Separately Certified Component that is an Electric Storage Resource, the minimum Charge Level capability of the Electric Storage Resource. [Appendix 1(c)xiii.]	Minimum Charge Level in MWh If this field is not applicable please leave value as zero.	Text Box	Numeric	MWh	Appendix 1(c)xiii.

8. Appendices

8.1   Appendix 1 - Start-Up Times

8.2 Appendix 2 - Minimum Physical Responses Time to a Dispatch Instruction

8.2.1 The minimum physical response time before the Facility can begin to respond to a Dispatch Instruction, when the Facility is running represents the time lag between the Facility Power Plant Controller (PPC) receiving the desired MW signal from AEMO and responding – i.e. $t2 – t1$ in the figure below: