Generator Monitoring Plan Template

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Date:	

Version Release History

Version	Effective Date	Summary of Changes
1.0	28 June 2021	First publication of the Generator Monitoring Plan Form
1.1	12 May 2023	Public draft release of the of the updated Generator Monitoring Plan template

Important notice

PURPOSE

AEMO publishes this Generator Monitoring Plan Template to assist Market Participants in developing a proposed Generator Monitoring Plan. Market Participants must submit Generator Monitoring Plans that are consistent with the format presented in this Generator Monitoring Plan Template, in accordance with WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans, to AEMO. The *Electricity Industry Act 2004*, the WEM Regulations, the WEM Rules and WEM Procedures prevail over this form to the extent of any inconsistency.

DISCLAIMER

This document might also contain information which is provided for explanatory purposes. That information does not constitute legal or business advice and should not be relied on as a substitute for obtaining detailed advice about the Law, the Rules, or any other applicable laws, procedures or policies. AEMO has made every effort to ensure the quality of the information but cannot guarantee its accuracy or completeness.

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USER GUIDE

1. The red text in this template contains explanatory notes to assist Market Participants in providing required information, red text must be deleted prior to submission of a proposed Generator Monitoring Plan by a Market Participant to AEMO.
2. The *italicised* texts are examples. They are to be modified prior to submission of a proposed Generator Monitoring Plan by a Market Participant to AEMO.

Item	Description
Contact Name	[Name/Position. Compulsory, for AEMO to contact relevant personnel of a Market Participant]
Address/Phone/Fax	[Address/Phone/Fax. Compulsory, for AEMO to contact relevant personnel of a Market Participant]
Author	[Name/Position. Optional, to be entered for Market Participant's record keeping.]
Reviewed By	[Name/Position. Optional, to be entered for Market Participant's record keeping.]
Approved By	[Name/Position. Optional, to be entered for Market Participant's record keeping.]

Version Release History

Version	Effective date	Summary of changes
1.0	[dd Month yyyy]	[Enter relevant changes. Compulsory, for the purpose of AEMO's assessment.] *First submission to AEMO*

Review STATUS

Review date	Date
Next review date	[dd Month yyyy] [Compulsory, for the purpose of AEMO's assessment.]
Historical review #1	[dd Month yyyy] [Compulsory, for the purpose of AEMO's assessment.]

Contents

Tables

1. Introduction

1.1. Facility X

[Include an introduction/summary of the Facility.]

Table 1 Example of a Market Participant and Facility summary table

Item	Description
Market Participant Name	[Enter according to WEM registration. Compulsory, for the purpose of verification]
Market Participant Code	[Enter according to WEM registration. Compulsory, for the purpose of verification]
Facility Code	[Enter according to WEM registration. Compulsory, for the purpose of verification]
Facility's Registered Generator Performance Standard date	[Enter as the latest date of Registered Generator Performance Standards from all Generating Systems within the Facility. Compulsory, for the purpose of verification]

1.1.1. Facility *X – Generating System YYY*

[Brief introduction/summary of a Generating System and its Generating Units covered in a single GPS]

Table 2 Example of a brief introduction/summary for a gas/steam turbine Generating System

Item	Description
Generating Unit names associated with the GPS of Generating System YYY	[As provided in the GPS Template]
Date of Registered GPS of Generating System YYY	[As provided in the AEMO MPI portal]
Excitation system make and model	
Turbine make and model	
Governor make and model	
Rated MVA	
Rated MW	
Rated Power Factor	
Nominal voltage (kV)	
Rated stator current (kA)	
Rated field current (A)	
Rated Hz	
Rated field voltage (VDC)	
Ceiling factor	
[Include others as appropriate]	

1.1.2. *Facility X – Generating System ZZZ*

[Brief introduction/summary of other Generating System and its Generating Units within the Facility covered in a separate GPS, if applicable.]

Table 3 Example of a brief introduction/summary for an asynchronous Generating System

Item	Description
Generating Unit names associated with the GPS of the Generating System ZZZ	[As provided in the GPS Template]
Date of Registered GPS of Generating System ZZZ	[As provided in the AEMO MPI portal]
Generating Units make(s) and model(s)	
Number of Wind Turbine Generators/Inverters	
Power Plant Controller make and model	
Rated MVA	
Rated MW	
Rated Power Factor	
Nominal voltage (kV)	
Rated current	
[Include others as appropriate]	

1.1.3. *Facility X* – Other equipment

[Brief introduction/summary of other equipment within the Facility that are part of the applicable Registered Generating Performance Standards, e.g. harmonic filters, static and dynamic reactive power device, special protection schemes.]

1.2. Roles and responsibilities/Site test coordination

All personnel involved in preparing, maintaining, executing and approving this Generator Monitoring Plan are summarised in Table 4.

In addition, The Generator Monitoring Plan, including any outcome of the testing and verification, must be distributed internally according to the following distribution list for review and comments, prior to submission to AEMO:

a. *Facility X Compliance Team;*
b. *Facility X Operations Team; and*
c. *Facility X Asset Maintenance Team.*

Table 4 Example of roles and responsibilities for execution of Compliance Monitoring Plan

Role	Contact	Responsibility
Facility X Operations Manager		
Facility X Coordinator		
Facility X Lead Engineer		
Consulting Engineer (Generator Monitoring Plan)		
Consulting Engineer (Testing and Verification)		
Network Operator		
AEMO	*WEM.GPS@aemo.com.au*	*Facilitator of the GMP, non-compliance and rectification plan process*

1.3. Non-compliance

[Include details of any non-compliance and suspected non-compliance, rectification plan and status of compliance at the time of submission of this Generator Monitoring Plan, and if applicable, the test results following a request by AEMO to undertake a test in accordance with WEM Rules clause 3A.9.4 and the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

There has been no non-compliance identified and/or self-reported by Facility X against any of the Registered GPS to date.

There has been no non-compliance reported or advised by AEMO and/or established by ERA at the time of submission of this Generator Monitoring Plan.

1.4. Requests for information

[Include any relevant information requests by AEMO in accordance with the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Detail where and how the Information has been provided in this Generator Monitoring Plans or other communications, including the form, format and manner.]

AEMO has not requested any information under the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.

1.5. Commencement date

[Include proposed commencement date for this Generator Monitoring Plan.]

This Generator Monitoring Plan approved by AEMO, takes effect from 1st August 2021, until another approved Generator Monitoring Plan supersedes it.

1.6. Proposed timeframe for evidence of compliance

[Include proposed timeframe for submission of the first complete set of evidence of compliance, as well as the subsequent sets of evidence of compliance. Evidence of compliance is described in WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans].

The first complete set of evidence of compliance is scheduled to be submitted by Facility X to AEMO prior to 1st February 2022, i.e. within 6 months after the commencement date specified in Section 1.5 of this form.

The subsequent evidence of compliance will be submitted according to the proposed frequency of testing specified in each section from Section 2 to Section 0 of this form.

1.7. Non-compliance reporting

[Include any internal processes for a Facility to report any identified non-compliance for that Facility. Note that the process to self-report any non-compliance to AEMO is specified in the WEM Rules and WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

Where non-compliance has been identified at any time for any of the Technical Requirements described in Appendix 12 of the WEM Rules, compliance team must notify Operations Manager according to internal non-compliance notification process, refer to Internal Instructions xxx.

1.8. Review of Generator Monitoring Plan

[Include audit or review processes for the Generator Monitoring Plan]

The Generator Monitoring Plan must be independently audited by an external party engaged by Facility X, every 5 years for compliance with:

- *Chapter 3A of WEM Rules;*
- *Appendix 12 of WEM Rules, and*
- *WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.*

1.9. Glossary

[Include any terms and abbreviations used in this Generator Monitoring Plan.]

Table 5 Terms and abbreviations used in this Generator Monitoring Plan

Term	Definition
Evidence of compliance	*It has the meaning given in WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.*
Monitoring Results or Monitoring Data	*It has the meaning described in WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.*
Test Results or Test Data	*It has the meaning described in WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.*
Disturbance Data	*It has the meaning described in WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.*
CUO	*Continuous Uninterrupted Operation*
Registered GPS	*Registered Generator Performance Standard*

2. Active Power Capability

2.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

2.1.1. Generating System YYY

[This is an example of a testing method.]

The test is to be undertaken during summer from December to March, and during the hottest time of the day so that Rated Maximum Active Power output level can be verified at the required Maximum Temperature of 45 degrees.

The record of ambient temperature is available locally outside the protection relay room of Facility X.

Approval for testing from the Network Operator and AEMO must be obtained prior to the test being undertaken.

The following steps provide a high-level view of how the test is to be undertaken:

1. *Record the ambient temperature at the time of test;*
2. *Ensure generator MW output, gas pressure and generator speed are being recorded for diagnosis purposes;*
3. *Adjust the MW level to Rated Minimum Active Power output level and sustain for at least 5 minutes;*
4. *Stop and save recording, review the test results to confirm if the test needs to be repeated;*
5. *Repeat the test by adjusting MW level to 25%, 50%, 75% and 100% of Rated Maximum Active Power output;*

Detailed steps are described in the attached document 'Test Plan Facility X'. Test Plan Facility X complete with timestamps where the tests have been performed and signatures by those who have performed and witnessed, will be submitted as part of evidence of compliance

2.1.2. Generating System ZZZ

[This is a different example of a testing method description.]

Test equipment described in Section 2.2 of this form is used to monitor the Active Power level continuously at 30-minute intervals at the Connection Point located at substation ABC 132 kV. The ambient temperature and relevant operating condition quantities listed as follows are recorded continuously as part of monitoring and logging system of the governor Control System.

The Monitoring Data is scheduled to be assessed annually after 31st March. The results will be compiled and circulated for comments internally according to distribution list described in Section 1.2. All results will be compiled and submitted as evidence of compliance to AEMO at the proposed timeframe for evidence of compliance as described in Section 1.6 of this form.

There are no power backup or UPS system installed for the monitoring equipment. In the event of the equipment being out of service and gaps are found in the Monitoring Data, Facility X will request network SCADA data from the Network Operator to complete the Monitoring Data.

2.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements).]

2.2.1. Generating System YYY

[This is an example of a testing equipment description.]

The test equipment for Active Power on-site online tests will be as supplied by Consulting Engineer (testing and verification) at the time of site testing. Consulting Engineer must as part of their contract provide specifications and calibration test certificates at least 5 days prior to the site-test proposed in Section ***Error! Reference source not found.*** *of this form to Facility X, to s upport demonstration of compliance of the test equipment with the current Communication Standard (WEM Procedure: Communication and Control Systems). These specifications and calibration test certificates will be supplied upon submission of evidence of compliance.*

Table 6 ***Recorder specifications*– Generating System YYY**

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

2.2.2. Generating System ZZZ

[This is different example of a testing equipment description.]

The recorder for continuous monitoring for the testing method in section ***Error! Reference s ource not found.*** *of this form is LEGEND model A459 device, which is compliant with requirements in Appendix B.5 of the WEM Procedure: Communications and Control Systems, as demonstrated in Table 7. Calibration test certificate for the Recorder is attached.*

Table 7 LEGEND model A459 specifications – Generating System ZZZ

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

2.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance.]

2.3.1. Generating System YYY

Table 8 Ongoing compliance verification of Active Power capability and evidence of compliance for Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Specified Measurement Location	A12.2.1.1	*[The Statement of compliance is taken directly from your Registered GPS and can be considered as a promise that your Generating System will comply against your declared performance or requirement.]* *The requirements for Active Power Capability apply at the Connection Point.*	*[The Verification of compliance is the proposed method (for a specific test, monitoring regime, or type of network disturbance event) to verify the performance or requirement declared in the Statement of compliance]* *Test Data and Monitoring Data recorded for this Technical Requirement are measured at the Connection Point.*	*[The Evidence of compliance regime expresses how future test/monitoring/disturbance data will be analysed and demonstrated for compliance; how evidence is compiled for compliance; and the frequency of providing evidence]* *The testing method in section 2.1.1 of this GMP will be measured at the location specified in the Registered GPS. The evidence of compliance will be captured annually from Facility Compliance Report.*
Temperature Dependency Data including Rated Maximum Active Power	A12.2.2.1, A12.2.3.2		*Active Power and ambient temperature captured from Test Data and Monitoring Data is consistent with the Temperature Dependency Data.*	
Continuous Uninterrupted Operation and maintaining	A12.2.2.1, A12.2.3.4		*Test Data and Monitoring Data demonstrates the Generating System maintains Continuous Uninterrupted Operation and meets the relevant Active Power output levels at the temperatures specified in the Temperature Dependency Data.*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
relevant Active Power				
Temporary Active Power reduction	A12.2.2.1, A12.2.3.5		*Test Data and Monitoring Data demonstrates temporary reduction in Active Power to achieve the required Reactive Power Capability as agreed in the Registered GPS.*	
No exceedance of relevant Active Power levels	A12.2.2.1, A12.2.3.6		*Test Data and Monitoring Data demonstrates Active Power does not exceed the Active Power levels in the Temperature Dependency Data.*	

2.3.2. *Generating System ZZZ*

Table 9 Ongoing compliance verification of Active Power capability and evidence of compliance for Generating System ZZZ

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System ZZZ	Verification of compliance – Generating System ZZZ	Evidence of compliance – Generating System ZZZ
Specified Measurement Location	A12.2.1.1			
Temperature Dependency Data including Rated Maximum Active Power	A12.2.2.1, A12.2.3.2			
Continuous Uninterrupted Operation and maintaining relevant Active Power	A12.2.2.1, A12.2.3.4			
Temporary Active Power reduction	A12.2.2.1, A12.2.3.5			
No exceedance of relevant Active Power levels	A12.2.2.1, A12.2.3.6			

2.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

2.4.1. Generating System YYY

[This is an example of a testing method.]

*The online test described in Section **Error! Reference source not found.** of this form is to be t aken every 3 years but may be taken more frequently or more than once within the 3 years, if the required temperature is reached.*

2.4.2. Generating System ZZZ

[This is a different example of a testing method.]

*If there is sufficient evidence from the ongoing monitoring described in Section **Error! R eference source not found.** of this form (method 2) to conclusively establish that the Technical Requirement has been met*

2.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 10 Risks and mitigation

Risk	Relevant Generating System	Mitigation

3. Reactive Power Capability

3.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

3.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 11 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

3.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3. of this form]

Table 12 Ongoing compliance verification of Reactive Power capability and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Specified Measurement Location	A12.3.1.1		*Test Data and Monitoring Data recorded for this Technical Requirement are measured at the Connection Point.*	
Generator Performance Chart including Temperature Dependency Data	A12.3.1.2		*The Reactive Power output levels achieved are consistent with the Generator Performance Chart, for the range of ambient temperatures up to 45 degrees and above 45 degrees after which the performance is reduced.*	
No limitations to Reactive Power within defined Generator Performance Chart	A12.3.1.3		*Test Data and Monitoring Data show Reactive Power output levels are achieved at all operating Active Power output levels within the Generator Performance Chart without any control system limitation, protection system or other limiting device in operation.*	
Capability to dispatch Active Power and Reactive Power at the Connection Point	A12.3.1.5		*Test Data and Monitoring Data show the Generating System's Connection Point permits the Dispatch of the full Active Power and Reactive Power Capability of the Generating System and is consistent with the Generator Performance Chart.*	
Reactive Power Capability	A12.3.2.1, A12.3.3.1		*Test Data and Monitoring Data show Reactive Power output level in both supply and absorb regions is consistent with the Reactive Power Capability in the Generator Performance Chart.*	
Continuous Reactive Power Capability	A12.3.2.2, A12.3.3.2		*Monitoring Data show Reactive Power output level is delivered continuously for voltages within the steady state voltage range of 0.9pu and 1.1pu at the Connection Point.*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Agreement to reduce Active Power if ambient temperature > 25 degrees	A12.3.3.3		*Where Active Power level is reduced as per the Registered GPS, ambient temperature is above 30 degrees at the Generating System's location whilst meeting Reactive Power Capability.*	

3.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

3.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 13 Risks and mitigation

Risk	Relevant Generating System	Mitigation

4. Voltage and Reactive Power Control

4.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

4.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 14 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

4.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 15 Ongoing compliance verification of voltage and Reactive Power control and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Specified Measurement Location	A12.4.1.1		*Test Data and Monitoring Data recorded for this Technical Requirement are measured at the Connection Point.*	
Compliance when operating at any range of Active and Reactive Power and temperature	A12.4.1.2		*Test Data and Monitoring Data show Active Power and Reactive Power meets the levels permitted under the other Technical Requirements in this Appendix, and at all temperatures up to and including 45 degrees C.*	
Power system oscillations damping adequacy	A12.4.2.2(a), A12.4.3.2(a)		*Test Data and Disturbance Data show all post-step and post-disturbance responses are Adequately Damped, thereby confirming that the Equipment capabilities and Control Systems are sufficient to ensure power system oscillations are Adequately Damped.*	
No degradation of damping performance of power system	A12.4.2.2(b), A12.4.3.2(b)		*Test Data and Disturbance Data show all post-step and post-disturbance responses of the power system are Adequately Damped, thereby confirming that the Generating System does not degrade the damping of any critical mode of oscillation of the power system.*	
Power system stability requirement	A12.4.2.2(c)		*Monitoring Data and Disturbance Data show continual stable responses from*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
			the Generating System, its Equipment and Control Systems.	
Control System testing equipment requirements	A12.4.2.3, A12.4.3.2(c)		*Test Data and Disturbance Data show all required quantities are monitored and recorded continuously.*	
Ability to operate in all control modes	A12.4.2.4(a), A12.4.3.3		*Test Data shows the Generating System can operate in all control modes specified in the Registered GPS.*	
Ability to switch between control modes	A12.4.2.4(b)		*Test Data shows Generating System can switch between all control modes specified in the Registered GPS and the switch between control modes is in accordance with the agreed procedure.*	
Voltage Control System - voltage regulation accuracy	A12.4.2.5(a), A12.4.3.4(a)		*Test Data and Monitoring Data show the voltage is controlled to within 0.5% of the setpoint, where the setpoint is adjusted with droop as per the Registered GPS.*	
Voltage Control System - support network voltage during fault	A12.4.2.5(b)		*Disturbance Data confirm that the Generating System's voltage Control System regulates voltage in a manner that supports the network voltages during fault by providing reactive current in accordance with the Registered GPS.*	
Voltage Control System - continuous controllability	A12.4.2.5(c), A12.4.3.4(b)		*Test Data and Monitoring Data show the voltage is continuously controllable in the range specified in the Registered GPS at the Connection Point without reliance on the Tap-Changing Transformer and subject to the Generator Performance Standards for Reactive Power Capability with the voltage control location as specified in the Registered GPS. Record of transformer tap positions are provided for confirmation.*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Voltage Control System - limiting devices	A12.4.2.5(d)		*Confirmation that the relevant limiting devices are in service; and* *Test Data demonstrates proper operation of all relevant limiters in service.*	
Power System Stabiliser control structure and testing requirements	A12.4.2.6		*Provision of block diagrams of the Generating Unit's power system stabiliser, and the block diagram demonstrates that the power system stabiliser meets the specified requirements.*	
Reactive Power Control System - regulation accuracy	A12.4.2.7(a), A12.4.3.5(a)		*Reactive Power and Power Factor step change Test Data show the Reactive Power is controlled to the level of the accuracy levels specified.*	
Reactive Power Control System - continuous controllability of Target Setpoint	A12.4.2.7(b), A12.4.3.5(b)		*Reactive Power and Power Factor step change Test Data show the Reactive Power and Power Factor can be continuously controlled within specified Reactive Power Capability range at the specified location.*	
Control structure and settings approval	A12.4.2.8		*Confirmation that structure and parameter settings of all components of the Control System in the Registered GPS are applicable and valid.*	
Control System damping adequacy	A12.4.2.9		*Test Data shows all post-step and post-disturbance responses are Adequately Damped.*	
Excitation Control System - operation at 105% of nominal voltage	A12.4.2.10(a)		*Test Data show that the voltage at the stator of the Generating Unit can be sustained at 105% of nominal voltage continuously at Rated Maximum Active Power output.*	
Excitation Control System - excitation ceiling voltage	A12.4.2.10(b), A12.4.3.6(a)		*Test Data show the excitation ceiling voltage can be achieved at the specified levels.*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Excitation Control System - Power System Stabilizer frequency	A12.4.2.10(c)		*Provision of block diagrams of the Generating System power system stabiliser; and* *Test Data show the stabilising circuit is responsive and adjustable over a specified frequency range.*	
Excitation Control System - minimum equivalent gain	A12.4.2.10(d), A12.4.2.14		*Provision of Excitation Control System settings show the minimum equivalent gain of 200.*	
Power System Stabiliser measurement requirements	A12.4.2.12(a)		*Provision of block diagrams of the Generating Unit's power system stabiliser, and the block diagram demonstrates that the power system stabiliser meets the specified requirements.*	
Power System Stabiliser limiter requirements	A12.4.2.12(b)		*Test Data show that the power system stabiliser has an output limiter continuously adjustable over specified range.*	
Power oscillation damping capability	A12.4.2.13		*Test Data and Disturbance Data show all post-step and post-disturbance responses demonstrate power oscillation damping capability and:* *a) confirmation that the Generating System power system stabiliser is responsive and adjustable over frequency range from 0.1 Hz and 2.5 Hz; and* *b) provision of block diagrams of the Generating Unit's power system stabiliser demonstrating it has power system frequency and Active Power output of the Generating Unit as inputs.*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Rise Time	A12.4.2.11, A12.4.2.15		*Test Data demonstrate Rise Time in all required step change tests to be within limits specified in the Registered GPS.*	
Settling Time	A12.4.2.11, A12.4.2.15, A12.4.3.6(b), A12.4.3.7		*Test Data demonstrate Settling Time in all required step change tests to be within limits specified in the Registered GPS.*	
Settling Time (with control output saturation)	A12.4.2.11, A12.4.2.15		*Test Data demonstrate Settling Time in all required step change tests with hitting the controlled output limit to be within limits specified in the* Registered GPS*.*	
Agreed controlled parameters to meet performance	A12.4.2.16		*Confirmation that the controlled parameters agreed with the Network Operator and AEMO and are applicable and valid.*	
Reactive Power Control System - limiting devices requirements	A12.4.3.5(c)		*Disturbance Data and investigation of every disconnection show that limiting devices of Reactive Power and Power Factor Control System do not cause Generating Unit to trip at the limits of operating capability, the Generating System can work indefinitely under the control of any limiter and the limiters comply with specified performance.*	
Highest level a Generating System can reasonably achieve	A12.4.4.1		*N/A.*	

4.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

4.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 16 Risks and mitigation

Risk	Relevant Generating System	Mitigation

5. Active Power Control

5.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

5.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 17 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

5.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 18 Ongoing compliance verification of Active Power control and evidence of compliance – Generating System A

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Compliance with Dispatch Systems Requirements	A12.5.1.1		*All relevant requirements in Dispatch Systems Requirements are listed and evidence of compliance is provided.*	
Arrangement for Access to limit Active Power output	A12.5.1.2		*Confirmation of any arrangements put in place in the Registered GPS is applicable and valid.*	
Control System damping adequacy	A12.5.1.3		*Test Data and Monitoring Data show that post-step Active Power is Adequately Damped, at different pre-step or pre-disturbance Active Power levels.*	
Provision of disconnection settings	A12.5.1.4		*Provision of all applicable disconnection settings.*	
Maintaining Active Power output	A12.5.1.5		*Test Data and Monitoring Data showing sustained Active Power level despite loss of communications, or failure of Remote Monitoring Equipment or Remote Control Equipment; and* *Monitoring Data showing Active Power change is not due to loss of communications, or failure of Remote Monitoring Equipment or Remote Control Equipment.*	
A12.5 requirements do not override Active Power ramping in A12.6	A12.5.1.6		*Test Data and Monitoring Data showing requirements in A12.5 do not override any specific Active Power ramping requirements specified in Part A12.6 in response to frequency deviations.*	
Compliance when operating at any	A12.5.1.7		*Test Data and Monitoring Data show Active Power and Reactive Power meets the levels permitted*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
range of Active and Reactive Power and temperature			*under the other Technical Requirements in this Appendix, and at all temperatures up to and including 45 degrees Celsius.*	
Active Power Control System capability	A12.5.2.1, A12.5.3.1		*Monitoring Data shows the Generating System:* *a) Maintains and changes Active Power output in accordance with the Target Setpoints;* *b) ramps Active Power output linearly; and* *c) changes the Target Setpoints at a rate of 10MW per minute or less.*	
Rate of change of Active Power	A12.5.2.2, A12.5.3.2		*Test Data and Monitoring Data show rate of change of Active Power is continuously within the limit specified in the Registered GPS.*	
Compliance of Transmission Connected Generating System with Dispatch Systems Requirements	A12.5.2.3		*Monitoring Data with the dispatch data show the Generating System meets its Dispatch Systems Requirements.*	

5.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

5.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 19 Risks and mitigation

Risk	Relevant Generating System	Mitigation

6. Inertia and Frequency Control

6.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

6.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 20 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

6.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 21 Ongoing compliance verification of inertia and frequency control and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Control System damping adequacy	A12.6.1.1		*Test Data, Monitoring Data and Disturbance Data show post-step or post-fault Active Power is Adequately Damped at different pre-step or pre-disturbance Active Power levels, and for different rates of frequency change.*	
Maximum ramp rate expression requirements	A12.6.1.2		*Test Data, Monitoring Data and Disturbance Data records the maximum ramp rate as the change in Active Power (measured in MW) across 6 seconds.*	
Provision of disconnection settings	A12.6.1.3		*Provision of all applicable disconnection settings.*	
Control System testing equipment requirements	A12.6.1.4		*Test Data and Disturbance Data show all required quantities can be monitored and recorded and appropriate permanently installed equipment is used.*	
Control behaviour after frequency control	A12.6.1.5		*Test Data and Disturbance Data show Active Power response when recovering from frequency control at different Active Power output levels, and for different sizes of frequency change to confirm the Generating System can meet the relevant requirements of section A12.5 of the WEM Rules.*	
Avoid use of protection or other disconnection schemes unless agreed	A12.6.1.6		*Disturbance Data that verifies protection or other schemes that have not disconnected the Generating System or elements of the Generating System to meet the requirements of this Part A12.6*	
Automatic variable Active Power control characteristic	A12.6.1.7		Test Data and Disturbance Data shows automatic variable Active Power control characteristics as per the Registered GPS.	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Capability for continuous operation in frequency control mode	A12.6.1.8		*Test Data, Monitoring Data and Disturbance Data shows the Generating System automatically alter its Active Power output to arrest and correct changes in power system frequency.*	
Frequency dead band	A12.6.1.9		*Test Data, Monitoring Data and Disturbance Data shows the active power responds to system frequency when the Frequency Dead Band is:* *a) at 50.025Hz or above; or* *b) at 49.975Hz or below.*	
Droop response (frequency reduction)	A12.6.1.10.(a)		*Test Data, Monitoring Data and Disturbance Data shows a frequency droop of 4% or lower provided the output is above the Rated Minimum Active Power.*	
Droop response (frequency increase)	A12.6.1.10.(b)		*Test Data, Monitoring Data and Disturbance Data shows a frequency droop of 4% or lower provided this does not require operation below the Rated Minimum Active Power.*	
Frequency control response conditions	A12.6.1.11		*Test Data, Monitoring Data and Disturbance Data following a frequency deviation show the Generating system's Active Power output:* • *does not exhibit step changes in Active Power as the power system frequency changes;* • *responds with a delay no greater than that required to ensure stable operation;* • *does not increase in response to an increase in power system frequency; and* • *does not decrease Active Power output in response to a decrease in power system frequency.*	
Specified Measurement Location	A12.6.1.12		*Test Data, Monitoring Data and Disturbance Data recorded for this Technical Requirement are measured at the Connection Point.*	
Compliance when operating at any range of Active and Reactive Power and temperature	A12.6.1.13		*Test Data, Monitoring Data and Disturbance Data show Active Power and Reactive Power meets the levels permitted under the other Technical Requirements in this Appendix, and at all temperatures up to and including 45 degrees Celsius.*	
Ability to comply with Droop response	A12.6.2.1.(a), A12.6.3.2.(a), A12.6.3.2.(b)		*Test Data, Monitoring Data and Disturbance Data show all initial outputs up to Rated Maximum Active*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
			Power meet the required droop response for frequency reduction.	
Rate of response	A12.6.2.1.(b), A12.6.2.1.(c), A12.6.3.2.(c), A12.6.3.2.(d)		*Test Data, Monitoring Data and Disturbance Data show for any frequency disturbance where the change in power system frequency is sufficient to change the Active Power of the Generating System by at least 5% of its Maximum Rated Active Power, the Generating System achieves at least 90% of the required frequency response specified in 2 seconds*	
Capability to sustain frequency response	A12.6.2.1.(d), A12.6.2.1.(e), A12.6.3.2.(e), A12.6.3.2.(f)		*Test Data, Monitoring Data and Disturbance Data show:* • *the required frequency response specified in clause A12.6.1.10 is sustained for not less than a further 10 seconds beyond the timeframes specified in the Rate of response criteria; and* • *Active Power output must be changed in proportion to the power system frequency in accordance with the required frequency response specified in clause A12.6.1.10;*	
Active Power and its rate of change requirements	A12.6.4.1.		*Test Data, Monitoring Data and Disturbance Data show that there is no requirement for a Generating System to operate with an Active Power output:* • *below its Rated Minimum Active Power in response to a rise in the frequency of the SWIS as measured at the Connection Point;* • *above its Rated Maximum Active Power output in response to a fall in the frequency of the SWIS as measured at the Connection Point; or* • *to deliver a rate of change in output exceeding the specified maximum ramp rate.*	
Requirements of additional source of inertia and frequency control	A12.6.4.2		*The Control System settings for the additional source of Inertia or frequency control are as specified in the Registered GPS*	

6.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

6.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 22 Risks and mitigation

Risk	Relevant Generating System	Mitigation

7. Disturbance Ride Through for a Frequency Disturbance

7.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

7.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 23 Recorder specifications

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

7.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 24 Ongoing compliance verification of disturbance ride through for a frequency disturbance and evidence of compliance – Generating System A

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Specified Measurement Location	A12.7.1.1		*Disturbance Data recorded for this Technical Requirement is measured at the Connection Point.*	
Provision of disconnection settings	A12.7.1.2		*Provision of all applicable disconnection settings.*	
Schemes agreed as part of A12.6 are not taken to be a breach of A12.7	A12.7.1.3		*Disturbance Data demonstrates the disconnection of the Generating System due to the triggering of the scheme that satisfies the requirements of A12.6 and meet the agreed parameters that are not taken to be a breach of A12.7.*	
Compliance when operating at any range of Active and Reactive Power and temperature	A12.7.1.4		*Disturbance Data show the Generating System operating at the permitted Active Power and Reactive Power in the Registered GPS.*	
Continuous Uninterrupted Operation - frequency requirements	A12.7.2.1, A12.7.3.1		*Disturbance Data demonstrates the Generating System meets the criteria of CUO including investigation of every disconnection of the Generating System is provided to confirm that it meets the*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
			frequency requirements in the Registered GPS.	
Continuous Uninterrupted Operation - ROCOF requirements	A12.7.2.2, A12.7.3.2		*Disturbance Data demonstrates the Generating System meets the criteria of CUO including investigation of every disconnection of the Generating System is provided to confirm that it meets the RoCoF requirements in the Registered GPS.*	
Agreement about frequency fall below described bound	A12.7.4.1.		*N/A*	

7.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

7.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 25 Risks and mitigation

Risk	Relevant Generating System	Mitigation

8. Disturbance Ride Through for a Voltage Disturbance

8.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

8.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 26 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

8.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 27 Ongoing compliance verification of disturbance ride through for a voltage disturbance and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Specified Measurement Location	A12.8.1.1		*Disturbance Data recorded for this Technical Requirement is measured at the Connection Point.*	
Continuous Uninterrupted Operation - 90% < nominal voltage < 110%	A12.8.1.2		*For each occurrence of a voltage disturbance between 0.9pu-1.1pu, Disturbance Data demonstrates the Generating System meets CUO including disconnection of the Generating System meets the Registered GPS.*	
Provision of disconnection settings	A12.8.1.3		*Provision of all applicable disconnection settings.*	
Compliance when operating at any range of Active and Reactive Power and temperature	A12.8.1.4.		*Disturbance Data show the Generating System operating at the permitted Active Power and Reactive Power levels in the Registered GPS.*	
Continuous Uninterrupted Operation - specified voltage ranges	A12.8.2.1, A12.8.3.1		*For each occurrence of a voltage disturbance outside of 0.9pu-1.1pu, Disturbance Data demonstrates the Generating System meets CUO including disconnection of the Generating System meets the Registered GPS.*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Agreement of zero percent voltage level duration	A12.8.3.2		*Disturbance Data demonstrates the Generating System meets the criteria of CUO including investigation of every disconnection of the Generating System did not disconnect while the voltage was at 0% for a duration less than required in the Registered GPS.*	
Provision of operational arrangements	A12.8.3.3		*Confirmation that the operational arrangements in the Registered GPS are applicable and valid.*	

8.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

8.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 28 Risks and mitigation

Risk	Relevant Generating System	Mitigation

9. Disturbance Ride Through for Multiple Disturbances

9.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

9.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 29 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

9.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 30 Ongoing compliance verification of disturbance ride through for multiple disturbances and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Provision of disconnection settings	A12.9.1.2		*Provision of all applicable disconnection settings.*	
Operational arrangement under abnormal conditions	A12.9.1.3		*Disturbance Data show the Generating System performance levels during abnormal Network and Generating System conditions are consistent with all operational arrangements in the Registered GPS.*	
Operation of auto-reclose requirement	A12.9.1.4		*For multiple disturbances, faults that are re-established following an automatic reclose Protection Scheme is a separate disturbance.*	
Reactive current contribution capability	A12.9.1.5, A12.9.1.6		*Disturbance Data from undervoltage events show:* *a) the reactive current contribution equals or exceeds the Maximum Continuous Current; and* *b) The ratio of the negative to positive sequence components of the reactive current contribution is consistent with the registered performance.*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Specified Measurement Location	A12.9.1.7		*Disturbance Data recorded for this Technical Requirement is measured at the Connection Point.*	
Compliance when operating at any range of Active and Reactive Power and any Specific thermal Limit	A12.9.1.8		*Disturbance Data show Active Power and Reactive Power meets the levels permitted under the other Technical Requirements in this Appendix. All limitations in Active Power and Reactive Power are consistent with the thermal limitations specified in the Registered GPS.*	
Continuous Uninterrupted Operation - specified disturbances requirements	A12.9.2.2, A12.9.3.2		*Provision of applicable Control System and Protection scheme settings to confirm the Generating System can remain in CUO for any of the specified disturbances, provided it is not an event that would cause the Generating System to not be in CUO by design; and* *For each occurrence of multiple disturbances, provision of Disturbance Data showing the Generating System remained in CUO for any of the specified disturbances, provided it is not an event that would cause the Generating System to not be in CUO by design.*	
Continuous Uninterrupted Operation - series of disturbances requirements	A12.9.2.3, A12.9.3.3		*Provision of actual Control System and Protection scheme settings is consistent with the settings in the Registered GPS; and for each occurrence of multiple disturbances within any 5-minute period, Disturbance Data shows the*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
			Generating System can remain in CUO for a series of disturbances specified in the Registered GPS.	
Reactive current contribution during the fault	A12.9.2.4(a), A12.9.2.5(a), A12.9.2.6, A12.9.3.4(a), A12.9.3.5(a), A12.9.3.6		*For each occurrence of a fault event, Disturbance Data demonstrates the Generating System's reactive current output meets the specified level as required in the Registered GPS. In addition, for Asynchronous Generating Systems, the reactive power response is triggered at specified voltage range.*	
Reactive Power requirements after the fault clearance	A12.9.2.4(b)		*For each occurrence of a disturbance, Disturbance Data or evidence from an investigation demonstrate Reactive Power supply or absorb sufficient to ensure voltage level at Connection Point or another agreed location to be within the CUO range following clearance of the fault.*	
Active Power recovery after the fault clearance	A12.9.2.4(c), A12.9.2.5(b), A12.9.3.4(a), A12.9.3.4(b), A12.9.3.5(b)		*For each occurrence of a voltage disturbance, Disturbance Data shows the Active Power level pre-disturbance and post-disturbance, and provides confirmation that the Active Power level at required location returns to specified level within the required time, following fault clearance.*	
Reactive current Rise Time, Settling Time and damping adequacy	A12.9.2.7, A12.9.3.7, A12.9.3.8		*For each occurrence of a voltage disturbance, Disturbance Data shows reactive current response has*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
			a Rise Time and Settling Time during a fault that are within the specified limit and the response following fault clearance is Adequately Damped.	
Capability to maintain rated output during over-voltages	A12.9.2.8(a)		*For each occurrence of a Connection Point voltage above 115%, Disturbance Data shows the Generating System provides current to maintain up to rated output in accordance with the Registered GPS.*	
Capability to maintain Maximum Continuous Current during under-voltages	A12.9.2.8(b)		*For each occurrence of a Connection Point below 85%, Disturbance Data shows current achieving up to Maximum Continuous Current in accordance with the Registered GPS.*	
Accepted performance level to not cause other connections to trip	A12.9.4.1		*For each disconnection of other Generating System or a Load, investigation by a Network Operator or AEMO concludes that disconnection is not caused by the connection of this Generating System.*	

9.4. Frequency of testing

[Include frequency of testing for each method and each Generating Systems within Facility X.]

9.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 31 Risks and mitigation

Risk	Relevant Generating System	Mitigation

10. Disturbance Ride Through for Partial Load Rejection

10.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

10.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 32 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

10.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 33 Ongoing compliance verification of disturbance ride through for partial load rejection and evidence of compliance – Generating System A

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Specified Measurement Location	A12.10.1.1.		*Disturbance Data recorded for this Technical Requirement is measured at the Connection Point*	
Compliance when operating at any range of Active and Reactive Power and temperature	A12.10.1.2.		*Disturbance Data show the Generating System operates at the permitted Active Power and Reactive Power levels in the Registered GPS and at all temperatures up to and including the Maximum Temperature.*	
Continuous Uninterrupted Operation - sudden reduction in Active Power	A12.10.2.1, A12.10.3.1		*Disturbance Data show the Generating System meets CUO including investigation of every disconnection of a Generating System is provided to confirm that the disconnection is not caused by overspeed protection or other relevant protection, which has operated as a result of a load rejection event, provided the reduction in Active Power is within the specified range in the Registered GPS; and* *Protection system data confirm the CUO in the event of*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
			sudden reduction in Active Power generation; and *Test Data demonstrates that the Generating System and each of its operating Units remain in CUO following a sudden reduction in Active Power, provided the reduction is within the specified range in the Registered GPS.*	

10.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

10.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 34 Risks and mitigation

Risk	Relevant Generating System	Mitigation

11. Disturbance Ride Through for Quality of Supply

11.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

11.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 35 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

11.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 36 Ongoing compliance verification of disturbance ride through for Quality of Supply and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
No disconnection requirement for specified Quality of Supply	A12.11.2.1., A12.11.3.1.		*Disturbance Data for every disconnection of a Generating System is not caused by power-quality protection (voltage fluctuation, harmonic voltage distortion and voltage unbalance) conditions at the Connection Point within the levels specified for flicker, harmonics and negative phase sequence voltage in the Technical Rules.*	

11.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

11.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 37 Risks and mitigation

Risk	Relevant Generating System	Mitigation

12. Quality of Electricity Generated

12.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

12.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 38 Recorder specifications

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

12.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 39 Ongoing compliance verification of Quality of Electricity generated and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Voltage imbalance allocation	A12.12.1.1		*Monitored Data showing voltage imbalance produced by the Generating System is no greater than the allocated limits.*	
Voltage fluctuation allocation	A12.12.2.1(a), A12.12.3.1(a)		*Monitored Data showing voltage fluctuation produced by the Generating System at the Connection Point is not greater than the allocated limits.*	
Harmonic voltage allocation	A12.12.2.1(b), A12.12.3.1(b)		*Monitored Data showing harmonic voltage distortion produced by the Generating System at the Connection Point is not greater than the allocated limits.*	
No prevention from meeting Network Operator obligations	A12.12.4.1		*N/A*	

12.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

12.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 40 Risks and mitigation

Risk	Relevant Generating System	Mitigation

13. Generation Protection Systems

13.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

13.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 41 Recorder specifications

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

13.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 42 Ongoing compliance verification of generation Protection systems and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Protection requirements as per the Technical Rules	A12.13.2.1, A12.13.3.1		*Disturbance Data and protection data confirm faults are cleared within the clearance time in the Registered GPS.*	
Redundancy and fault clearance requirements	A12.13.2.1, A12.13.3.2		*Confirmation of availability and continual functionality of the redundant Protection schemes; and* *Provision of applicable protection settings of the redundant Protection schemes to confirm faults will be cleared within the prescribed times.*	
Anti-islanding protection requirements	A12.13.2.1, A12.13.3.3		*Confirmation of availability and continual functionality of the anti-islanding protection; and* *Using Disturbance Data, provision of confirmation of correct anti-islanding protection operation preventing the Generating System from supplying an isolated portion of the SWIS when it is not secure to do so; and* *the applied settings in accordance with the Registered GPS.*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Protection Schemes necessary for abnormal conditions	A12.13.2.1, A12.13.3.4		*Confirmation of availability and continual functionality of the relevant Protection Schemes necessary to disconnect the Generating System under abnormal conditions; and* *Disturbance Data demonstrates correct operation of relevant Protection schemes to disconnect the Generating System under abnormal conditions; and* *Confirmation of the applicable settings as specified in Technical Requirements A12.7, A12.8 and A12.9 of the Registered GPS.*	
Provision of all Protection Scheme settings	A12.13.2.1, A12.13.3.5		*Provision of all Protection Scheme settings onsite are consistent the Registered GPS.*	

13.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

13.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 43 Risks and mitigation

Risk	Relevant Generating System	Mitigation

14. Remote Monitoring Requirements

14.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

14.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 44 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

14.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 45 Ongoing compliance verification of Remote Monitoring requirements and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Installation of Remote Monitoring Equipment	A12.14.2.1, A12.14.3.1		*Confirmation of the availability and continual functionality of the Remote Monitoring Equipment.*	
Conformance to Communication Standard	A12.14.2.1, A12.14.3.2		*All Remote Monitoring Equipment demonstrate conformance with the Communication Standard and demonstrate compatibility with Western Power and AEMO SCADA system at all times.*	
Provision of specified signals for Remote Monitoring Equipment	A12.14.2.1, A12.14.3.3		*All relevant signals for each Remote Monitoring Equipment are shown to be operational and functioning to support the dispatch process.*	
Availability of Remote Monitoring Equipment	A12.14.2.1, A12.14.3.4		*Confirmation of the availability and continual functionality of Remote Monitoring Equipment at all times, subject to Outages as agreed with AEMO.*	

14.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

14.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 46 Risks and mitigation

Risk	Relevant Generating System	Mitigation

15. Remote Control Requirements

15.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

15.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 47 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

15.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 48 Ongoing compliance verification of Remote Control requirements and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Installation of Remote Control Equipment	A12.15.2.1, A12.5.3.1		*Confirmation of the availability and continual functionality of the Remote Control Equipment (including capability to disconnect Generating Units from the Transmission System), where required by the Registered GPS.*	
Conformance to Communication Standard	A12.15.2.1, A12.5.3.2		*All relevant requirements in Communication Standard are listed and evidence of conformance of the Remote Control Equipment with the Communication Standard and other specified requirements in the Registered GPS is provided.*	
Availability of Remote Control Equipment	A12.15.2.1, A12.5.3.3		*Confirmation of the availability and continual functionality of the Remote Control Equipment at all times, subject to Outages as agreed with AEMO.*	

15.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

15.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 49 Risks and mitigation

Risk	Relevant Generating System	Mitigation

16. Communication Equipment Requirements

16.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

16.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 50 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

16.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 51 Ongoing compliance verification of Communications Equipment requirements and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Provision and maintenance of communication paths for specified equipment	A12.16.2.1, A12.16.3.1		*Confirmation of the availability and continual functionality of the communication links between the Remote Monitoring Equipment and Remote Communications Equipment installed at a Generating Unit to a communications interface at the relevant Power Station and in a location as specified in the Registered GPS, including any redundancies.*	
Provision and maintenance of speech communication channel for specified calls	A12.16.2.1, A12.16.3.2		*Confirmation of the availability and continual functionality of a speech communication channel as required in the Registered GPS.*	
Conformance of the speech communication channel with the Communication Standard	A12.16.2.1, A12.16.3.3		*All relevant requirements in Communication Standard are listed and evidence of conformance with all requirements is provided.*	
Public switched telephone network requirements	A12.16.2.1, A12.16.3.4		*Confirmation of sole-purpose connection for operational communications.*	
Availability of communication path	A12.16.2.1, A12.16.3.5		*Confirmation of the availability and continual functionality of the communication paths to any applicable Remote Monitoring Equipment or Remote*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
			Communication Equipment, including any redundancies and subject to Outages as agreed by AEMO.	
Primary Speech Communication Channel	A12.16.2.1, A12.16.3.6		*Confirmation that the Primary Speech Communication Channel is maintained in good working order.*	

16.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

16.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 52 Risks and mitigation

Risk	Relevant Generating System	Mitigation

17. Generation System Model

17.1. Testing and monitoring

[Include details of testing and monitoring for each Generating Systems within Facility X, considering the principles and information required for AEMO to understand, assess and approve this Generator Monitoring Plan (ref: WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans.]

17.2. Recording device

[Include details of relevant recording devices for each Generating System within Facility X, including demonstration of compliance with the Communication Standard (WEM Procedure: Communication and Control Systems), appropriateness of the recording device (accuracy, resolution and reliability) for this specific test (refer to WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans for recording device requirements). Please duplicate the Recorder specifications table for each Generating System.]

Table 53 Recorder specifications – Generating System YYY

Description	Technical requirement	Recorder specification
Recording sample rate		
Recorder resolution – Analog Signals		
Recorder resolution – Frequency		
Trigger Event Type		
Pre-trigger data event length		
Post-trigger data event length		
Safety Window		
Storage Capacity		
Event Data Format		
Time Stamping		

17.3. Compliance verification

[Suggestions for proposed verification mechanisms are described in Appendix D of the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. Market Participants may propose any other suitable ongoing verification mechanisms. Market Participants must include details of the Registered Generator Performance Standards and evidence of compliance. Please duplicate the table for each Generating System as per example from section 2.3 of this form.]

Table 54 Ongoing compliance verification of Generation System Model and evidence of compliance – Generating System YYY

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
Provision of modelling data	A12.17.2.1, A12.17.3.1		*Confirmation of validity of all provided modelling data.*	
Adequacy of modelling data	A12.17.2.1, A12.17.3.2		*Overlays of simulated and real-life performances and demonstration that modelling data is sufficient to enable the Network Operator or AEMO to predict the output of the Generation System under all power system conditions, to within the required range, in accordance with WEM Procedure: Generator Model Submission and Maintenance.*	
Accuracy of modelling data	A12.17.2.1, A12.17.3.3		*Overlays of simulated and real-life performances and demonstration that observed performance of the Generation System matches the predicted performance of the Generation System, using the Generation System Model, as assessed by the Network Operator or AEMO, to within the required range, in accordance with WEM Procedure: Generator Model Submission and Maintenance.*	
Provision of Generating System Model updates	A12.17.2.1, A12.17.3.4		*Confirmation of provision of updates to the Generation*	

Criteria description	Appendix 12 clauses	Statement of compliance – Generating System YYY	Verification of compliance – Generating System YYY	Evidence of compliance – Generating System YYY
			System Model in order to meet the requirements of the relevant Technical Requirement in accordance with the timeframes specified in the WEM Procedure Generation System Model Submission and Maintenance.	

17.4. Frequency of testing

[Include frequency of testing and/or monitoring period for each Generating System within Facility X.]

17.5. Risks and mitigation

[Include all risks identified and mitigation for each risk identified for all Generating Systems within Facility X.]

Table 55 Risks and mitigation

Risk	Relevant Generating System	Mitigation

Attachments

[All attachments referenced in this document should be listed here]