

Generator Performance Standards (GPS)

Information Session – Thursday 29 July 2021

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Agenda Topics

- Methodology for GPS Assessment
- Negotiated Standard below Minimum
- Common Themes from GPS Submissions
- GPS Template
- Relevant Generator Modifications
- Trigger Events
- Western Power's Q&A Session



General Housekeeping Rules

- Please mute your Microsoft Teams and any other devices and apps.
- Camera use: Turn-off your camera, to ensure optimum Microsoft Team call quality.
- Use Chat Window: Please ask questions via the chat window. A moderator will bring forward any chat questions to the Q&A session at the end of this presentation.

GPS – Stages

0 Preparation of GPS Submission

Market Participant completes GPS Template and collects supporting documentation.



1 GPS Submission

Market Participant submits proposed GPS Submission to Western Power for initial review and feedback.



2 Consultation of proposed GPS Submission

Western Power consults with AEMO via the GPS System for review and feedback.



3 Negotiation of proposed GPS Submission

Generator Performance is negotiated between parties via meetings and providing additional evidence.



4 GPS Registration

Western Power registers the GPS Submission based on AEMO's recommendation and is uploaded to the GPS System.



Relevant Stakeholders



Market Participant



Western Power



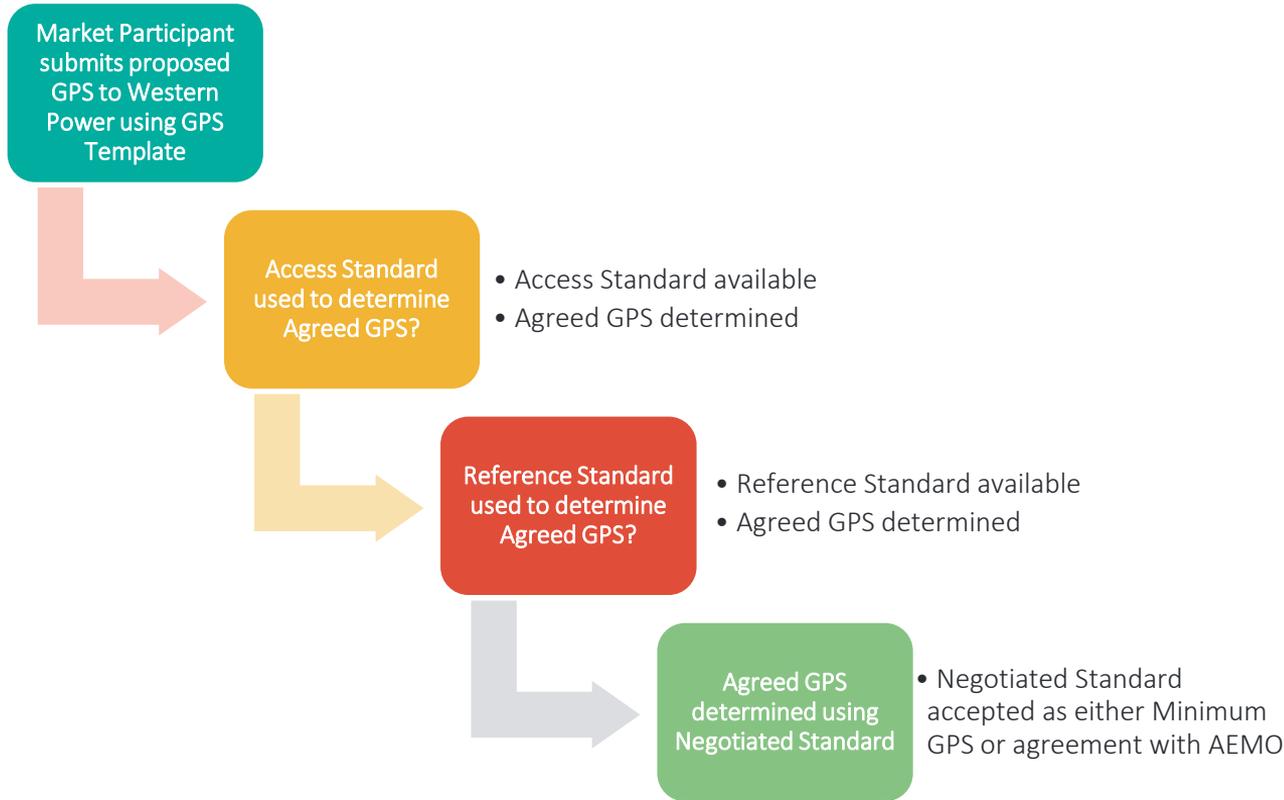
AEMO

GPS = Generator Performance Standards



* Slide credit -
AEMO WEMS GPS
Team

GPS Assessment for Existing Transmission Connected Generating Systems



Definitions:

Access Standard: Means an existing standard or technical level of performance in respect of the same or equivalent matter as a Technical Requirement that is either:

- (a) set out in and required by an Arrangement for Access; or
- (b) otherwise previously agreed by the Network Operator at the time of connection of the Existing Transmission Connected Generating System to the SWIS, or prior to the Tranche 1 Commencement Date.

Reference Standard: Means a standard or technical level of performance that applied at the time of connection of the Existing Transmission Connected Generating System to the SWIS or a modification of an Existing Transmission Connected Generating System before the Tranche 1 Commencement Date

Negotiated Standard below Minimum

- For a Proposed Alternative GPS that is below the Minimum GPS or Reference Standard, with supporting technical evidence, Western Power will take additional actions e.g. data interrogation and detailed modelling assessments, to determine approval.
- Further testing or interrogation of data that's required at this point in time and any costs incurred, will be discussed with the Market Participant.
- Based on the outcome of these assessments, if Western Power reasonably considers that the Proposed Alternative Standard can be accepted, then the Proposed Alternative Standard will be tentatively accepted by Western Power prior to the consultation with AEMO.
- Western Power will provide the Proposed Alternative Standard to AEMO for consideration and a recommendation to either accept or reject the Proposed Alternative Standard.



Common Themes from GPS Submissions

- Provide model with GPS Template
- Complete all rows and columns within the GPS Template
- Supporting documents **MUST** be supplied with a GPS Submission and document titles used in the template **MUST** match the title of supplied documents.
- A submission should point towards source documents rather than a summary report e.g. Western Power's Technical Rules Compliance Reports.
- The GPS Template **MUST NOT** be altered or changed
- A performance level stipulated in the GPS Template **MUST** match the compliance statements and supporting evidence.
- Not Applicable (N/A) should only be used when the particular clause is not applicable for the facility e.g. clauses applicable for synchronous machines only and the facility is a renewable generator etc.
- Statement of compliances used in the template should be firm and unambiguous. Statements like "*simulations indicate...*" or "*generating system should be able to...*" should be avoided.



GPS Template

- All GPS Submissions should be made using the **latest version** of the GPS Template (currently v3.0).
- **GPS Template v4.0** will be released in August 2021, to capture changes within WEM Rules Tranche 4b, as well as minor administrative changes.
- Changes are minor – work completed in **v3.0 is still valid**.
- **Final submissions** will need to use the **new template**.



Relevant Generator Modifications

- WEM Rules 3A.13 and 3A.14 describe “*Relevant Generator Modifications,*” (obligation was previously linked to Technical Rules clause 1.9.4 “grandfathering rules”).
- 3A.13.1 defines “*Potential Relevant Generator Modifications*”.
- A determination by Western Power and AEMO that *Potential Relevant Generator Modifications* should be defined as a *Relevant Generator Modification*, will require a review of Registered GPS, with respect to current requirements.
- Western Power (in consultation with AEMO), is developing a guideline that will provide further information (September 2021).

WEM Rules 3A.13.1

- 3A.13.1. Potential Relevant Generator Modification means for the purposes of Chapter 3A, a modification to a generating unit or generating works that are part of a Transmission Connected Generating System or Exempt Transmission Connected Generating System that:
- (a) has the potential to materially impact or change any of the characteristics, performance or capacity of the generating unit or generating works in respect of a Technical Requirement;
 - (b) has the potential to alter the capacity of the Transmission Connected Generating System or Exempt Transmission Connected Generating System in respect of any Technical Requirement for which the Ideal Generator Performance Standard has been amended since the applicable Registered Generator Performance Standard was approved;
 - (c) is reasonably considered to require an amendment to the Arrangement for Access for the Transmission Connected Generating System or Exempt Transmission Connected Generating System; or
 - (d) requires submission of a connection application in accordance with a Network Operator’s policy for access to its Network,
- but does not include the replacement of equipment where the capacity of the Transmission Connected Generating System to meet the Registered Generator Performance Standard remains unchanged as a result of the replacement of equipment.

Trigger Events

- WEM Rules 3A.5.6 describes that “*Trigger Events*” can be included in a Proposed Negotiated GPS.
- For an Existing Transmission Connected Generating System, the WEM Rules defines these as a “*Generator Condition*”.
- May be used to capture an undertaking to achieve an agreed outcome or agreed higher level of performance, after an Agreed GPS has been captured.
- These must be captured in the **Trigger Event Template** that is available at:

[\(https://www.westernpower.com.au/industry/manuals-guides-standards/generator-performance-standards/\)](https://www.westernpower.com.au/industry/manuals-guides-standards/generator-performance-standards/)

WEM Rules 3A.5.6.

- 3A.5.6. A Proposed Negotiated Generator Performance Standard may include a Trigger Event which must address:
- (a) the conditions for determining whether the Trigger Event has occurred;
 - (b) the party responsible for determining whether the Trigger Event has occurred;
 - (c) the actions required to be taken and any revised standard or technical level of performance in respect of a Technical Requirement which must be achieved if the Trigger Event occurs;
 - (d) the maximum timeframe for compliance with any action required to be taken and each revised standard or technical level of performance in respect of a Technical Requirement following the Trigger Event;
 - (e) any requirements to provide information and supporting evidence required by the Network Operator or AEMO to demonstrate that, if the Trigger Event occurs, the actions required will occur and will deliver the agreed outcome and level of performance required by any revised standard or technical level of performance in respect of a Technical Requirement;
 - (f) any testing requirements to verify compliance with each revised standard or technical level of performance in respect of a Technical Requirement; and
 - (g) any requirements necessary to verify that the actions required to be taken have occurred if the Trigger Event occurs.

Western Power's Q&A Session

- Please be advised that this session will not focus on addressing facility specific questions.
- If you require further assistance or information regarding GPS, please contact Western Power at system.analysis@westernpower.com.au

