

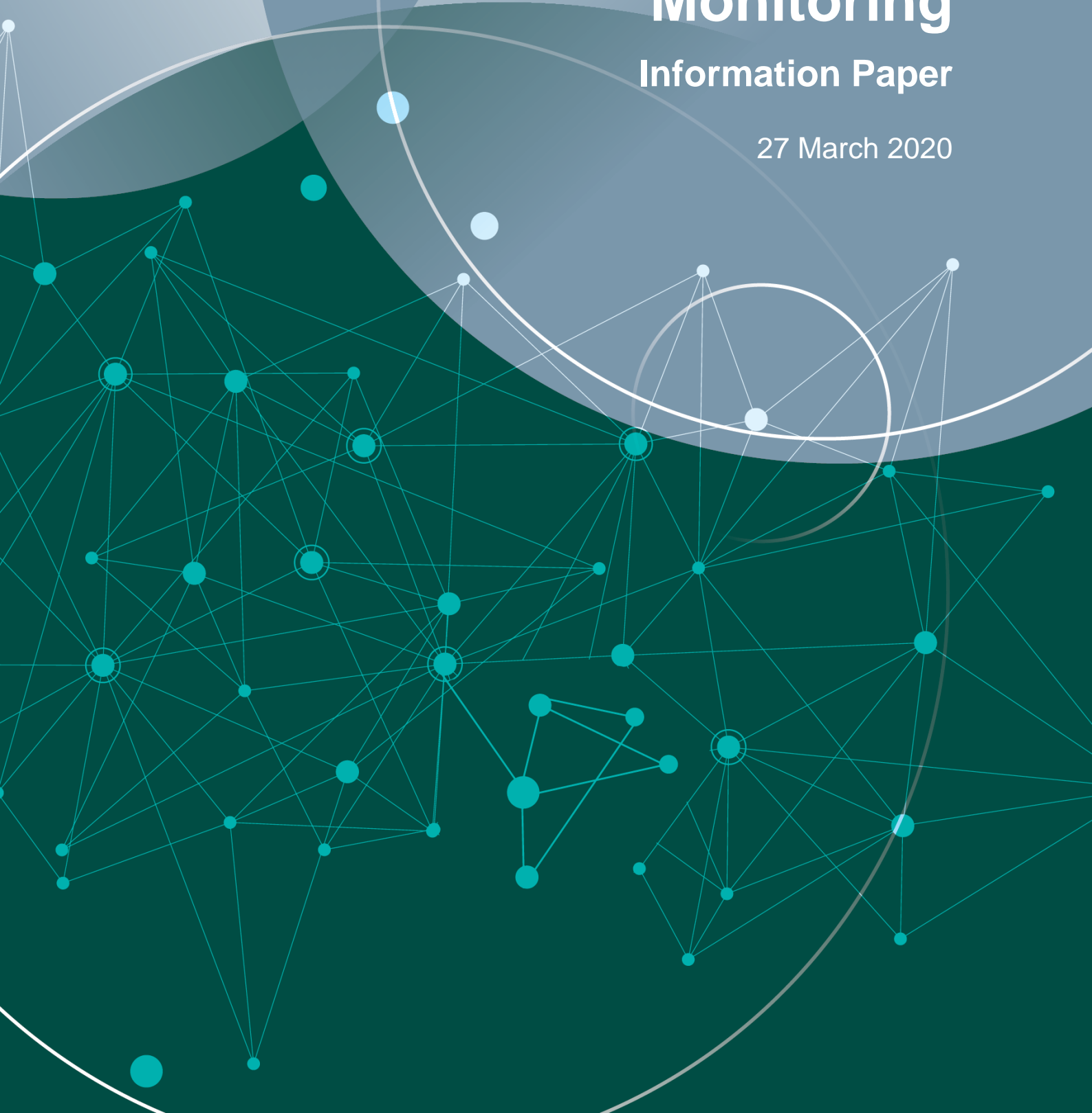


**Energy Transformation
Taskforce**

Generator Performance Standards - Compliance and Monitoring

Information Paper

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Abbreviations

The following table provides a list of abbreviations and acronyms used throughout this document. Defined terms are identified in this document by capitals.

Term	Definition
AEMO	Australian Energy Market Operator
ERA	Economic Regulation Authority
GPG	Generator Performance Guidelines
Strategy	Energy Transformation Strategy
SWIS	South West Interconnected System
Taskforce	Energy Transformation Taskforce
WEM	Wholesale Electricity Market
WEM Regulations	Wholesale Electricity Market Regulations

1. Introduction

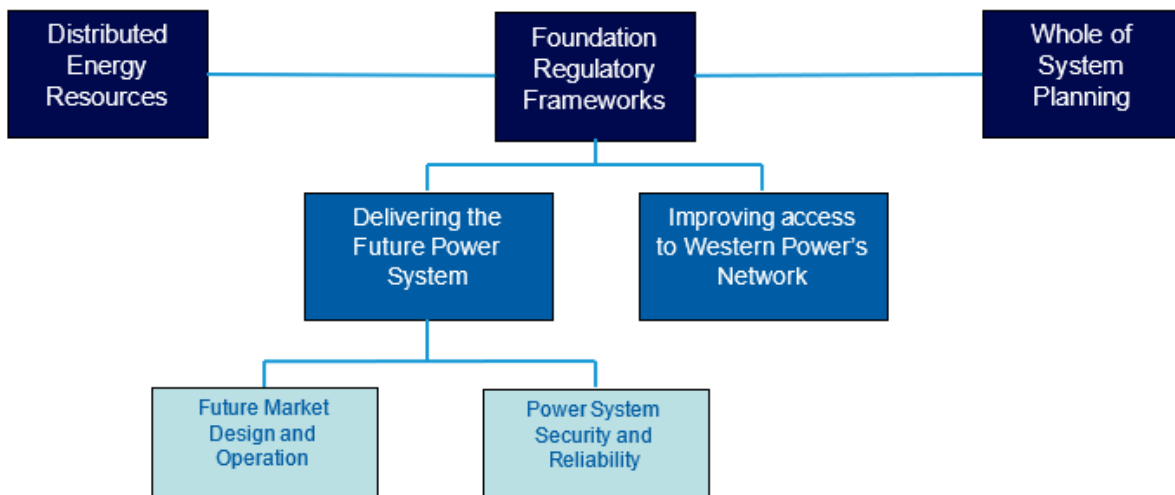
1.1 The Energy Transformation Strategy

On 6 March 2019, the Hon Bill Johnston MLA, Minister for Energy announced the McGowan Government's Energy Transformation Strategy (Strategy). This is the Western Australian Government's strategy to respond to the energy transformation underway and to plan for the future of our power system.

The delivery of the Strategy is being overseen by the Energy Transformation Taskforce (Taskforce), which was established on 20 May 2019. The Taskforce is supported by the Energy Transformation Implementation Unit, a dedicated unit within Energy Policy WA.

The Strategy is being delivered under three work streams. The introduction of a compliance and monitoring program for generator performance standards is part of the Power System Security and Reliability project within the Foundation Regulatory Frameworks work stream, as shown in Figure 1.1 below.

Figure 1.1: The Energy Transformation Strategy program structure



1.2 Project scope

This paper sets out the compliance and monitoring frameworks for a suite of revised generator performance standards that will shortly be implemented through the Wholesale Electricity Market (WEM) Rules (see section 1.3.1). These performance standards, and by extension the compliance and monitoring frameworks in this paper, will only apply to market participants¹ with generation facilities connecting to Western Power's transmission network. Generators connecting to the distribution network, as well as those that do not intend to participate in the market, will continue to refer to the Technical Rules for applicable generator performance standards and monitoring and compliance programs.

The Taskforce decisions within this paper will be implemented throughout 2020 in accordance with the high-level schedule provided in section 4.

¹ This includes those generators registered as market generators and as intermittent loads.

1.3 Related work

This section provides an overview of work either currently or previously undertaken by the Taskforce, Western Power, and the Australian Energy Market Operator (AEMO) that is of relevance to this paper.

1.3.1 Power System Security and Reliability Regulatory Framework

As part of the Strategy, the performance standards for generators connected to the transmission network and registered to participate in the market are being relocated to the WEM Rules, as set out in the Taskforce Information Paper [Power System Security and Reliability Regulatory Framework](#).

Over the coming months, the register (section 3.1), monitoring framework (section 3.2.1) and some early compliance measures (see rectification plans under section 3.2.1) discussed in this paper will be implemented in the WEM Rules. This will ensure that the relevant obligations are placed on new generators as they connect to the system. The application of monitoring plans and the means by which the register will be completed for existing generators requires further work, in consultation with industry, and is expected to be completed by September 2020.

1.3.2 Monitoring and Compliance in the WEM

As part of the Strategy, the Taskforce is reviewing the broader compliance and monitoring framework that applies under the WEM Rules. This will ensure that the options available within the WEM Rules to support compliance in the new market are fit for purpose, with proportionate penalties available to compliance bodies. Consultation on this project was carried-out at the Transformation Design and Operations Working Group in March 2020, and an Information Paper on this project is expected to be released in May 2020.

All work being undertaken by the Taskforce related to generator compliance and monitoring will be consistent with the overarching framework being developed for Monitoring and Compliance in the WEM.

1.3.3 Review of generator performance standards

In December 2018, AEMO and Western Power completed a review into generator performance standards in the Technical Rules, in light of the changing needs of the system and network. The review resulted in the release of a revised set of standards outlined in the [WEM Generator Performance Guideline](#) (GPG). The project was informed by strong industry consultation, including workshops and written submissions. The standards under the GPG represent those that will be relocated to the WEM Rules, under which the compliance and monitoring frameworks in this paper will apply.

1.3.4 Technical Rules Review

Western Power is currently undertaking a review of its Technical Rules. While this project is not part of the Strategy, the Technical Rules Review will reflect necessary amendments resulting from decisions made under the Strategy. Please contact Western Power at technical.rules.review@westernpower.com.au for further information on the Technical Rules Review.

1.4 Design principles

The design principles adopted by all compliance and monitoring projects under the Strategy are that:

1. frameworks should be fit-for-purpose, efficient and future-ready;
2. obligations should be easy to interpret, using unambiguous and transparent language; and
3. compliance frameworks should:
 - a. ensure decisions are consistent, repeatable and predictable;
 - b. ensure a risk-based and proportionate approach to enforcing compliance;
 - c. ensure procedural fairness and natural justice;
 - d. be responsive, where possible, with minimal time between non-compliance and action to address non-compliance; and
 - e. be graduated, where possible, with a range of options to address non-compliance.

1.5 Consultation

The revised framework set out in this document has been developed by the Taskforce in close consultation with AEMO, Western Power and industry stakeholders. The Transformation Design and Operation Working Group was consulted on 10 March 2020 and no substantive concerns were raised with the proposals put forward.

2. Current situation

2.1 Generator performance standards

Generator performance standards are an essential component of maintaining stable network voltage and frequency for a secure and reliable power system. Generators connecting to the power system must have a range of capabilities and controls to support the safe transfer of power in both normal operation and in response to contingency events.

The technical obligations include:

- in normal operation, reactive power capability and control, and active power control;
- during system disturbances, reactive current response, active power response to frequency disturbances, and the ability to continuously operate or ride through a range of system disturbances to voltage, frequency and fault current; and
- following system disturbances, recovery of active power.

These critical generator performance standards are supported by a range of other technical, information and procedural obligations. The provision of current and accurate information regarding technical obligations is integral to support the power system security and reliability is maintained in an economically efficient manner.

A generator's non-compliance with its technical obligations can impose costs on other generators, the network and customers, and create risks to system security.

2.1.1 Role of generator performance standards in maintaining power system security and reliability

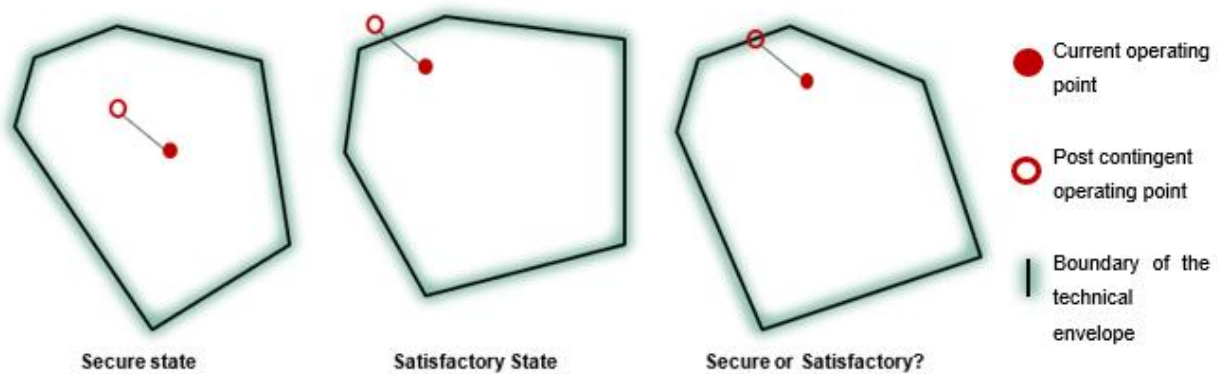
In the South West Interconnected System (SWIS), the Technical Rules and the WEM Rules set out the overall, technical limits of the power system, including acceptable ranges for voltage and frequency stability. AEMO and Western Power collaborate to identify the safe and secure limits of power transfer and control these power flows to maintain system security in real time.

The power system technical envelope that describes the secure limits of power transfer is the aggregate of the performance capabilities of the individual elements of the power system, including the generation, network and load elements, as connected and operational at a given time. If the standards that the power system elements must perform to are unknown, or there is uncertainty about compliance levels, the technical envelope will be more challenging to define and the operating state the power system is in at any given time will be more difficult to identify.

Within the technical envelope, the current operating state is defined by the relationship of the current operating point of the power system, and the system operating point following the largest credible contingency², as shown in Figure 2.1.

² That is the failure or removal from operational services of a generation, load, or network element.

Figure 2.1: Operating states relative to the technical envelope



- A Secure Operating State (left) is one in which this post-contingent operating point is still within the technical envelope. To the greatest extent practicable, the power system should be operated such that it is in, and will remain in, a Secure Operating State.
- A Satisfactory Operating State (centre) is when the power system is operating within all applicable limits and operating standards and is stable, however it would not be within the technical envelope following a contingency event.
- Uncertainty about the standards that generators will perform to can result in increased uncertainty about whether the system state is in a Satisfactory or Secure Operating State (right) and can encourage AEMO to procure additional essential system services (at additional cost) to ensure the power system remains in a Secure Operating State.

As such, the Western Power and AEMO require the highest quality information available about the expected performance of generators in order to maintain secure operation of the system at the lowest cost. This information will become increasingly important as the integration of distributed energy resources continues, and as new large-scale, intermittent renewable generation displaces the output of dispatchable synchronous thermal generators (such as coal or gas) that presently provide system security services such as inertia, frequency control, system strength, and voltage control.

2.1.2 Setting individual generator performance standards

The conditions under which each generator connects to the SWIS forms part of individual network access contracts between generators and Western Power. Such contracts impose a range of technical obligations on generators regarding power production, control, quality, protections, communications and the provision of information. These contractual obligations are usually set by reference to a common set of standards in a regulatory instrument, 'good electricity industry practice'³, and any individually negotiated exemptions.

As shown in Table 2.1 below, the regulatory instruments that contain reference generator performance standards have evolved over time.

³ Defined in the Electricity Networks Access Code 2004 as 'the exercise of that degree of skill, diligence, prudence and foresight that a skilled and experienced person would reasonably and ordinarily exercise under comparable conditions and circumstances consistent with applicable written laws and statutory instruments and applicable recognised codes, standards and guidelines'.

Table 2.1: Reference generator performance standards over time

Timeframe	Regulatory instrument
Prior to 1997	Internal planning documentation within the State Energy Commission of WA ⁴
1997 – 2007	Western Power Corporation Technical Code ⁵
2007 – current	Western Power Technical Rules
Future	Generator performance standards in the WEM Rules

While the instruments have changed, the standards in these documents have remained fairly consistent, particularly for synchronous generators which currently make up the majority of the existing generation fleet in the SWIS. As such, most differences in performance standards between generators are likely to arise from individually negotiated exemptions. Where these exemptions have been negotiated under the Technical Rules and approved by Western Power, they are [published](#) by the Economic Regulation Authority (ERA). Some standards are not found in either a regulatory instrument or published by the ERA, but are instead found only in generators' network access contracts.

In the future the generator performance standards for transmission connected generators registered to participate in the market will be located in the WEM Rules (see section 1.3).

2.2 Compliance and monitoring framework

An effective compliance and monitoring framework for generator performance standards is important to ensure that AEMO and Western Power can rely on the expected response of generators, as reflected in a performance standard. This expectation is then able to be used as input to AEMO and Western Power's planning and analysis to ensure that the power system operates within the required technical envelope.

As shown in Figure 2.2 below, an effective compliance and monitoring framework for generators relies on there being:

- a clear *record* of generator obligations;
- *monitoring* to track performance against recorded obligations;
- more complicated and potentially disruptive *testing*, where warranted, to verify performance as well as data models used to describe generator performance; and
- effective *enforcement* options for non-compliance.

⁴ Not publicly available.

⁵ Not publicly available.

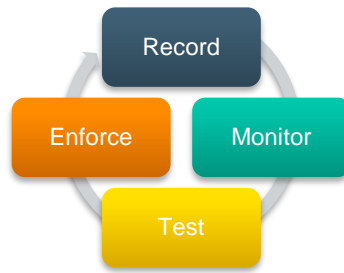


Figure 2.2: Elements of an effective compliance and monitoring framework

2.2.1 Current compliance and monitoring framework in the SWIS

The current compliance and monitoring framework for generator performance standards in the SWIS is shown in Table 2.2 below.

Table 2.2: Existing compliance and monitoring framework for generator performance standards in the SWIS

Element	Description	Source
Record	Database of Generator Performance Standards	Individual contracts, Technical Rules, and register of exemptions
Monitor	Compliance Monitoring Program for self-monitoring and reporting non-compliance	Technical Code and Technical Rules
Test	Require generator to update computer model if there is a material disconnect with actual performance.	WEM Rules and Technical Rules
	Detailed testing against agreed standards at commissioning	Technical Rules
	Testing of generators where there is suspicion of non-compliance	Technical Rules
Enforce	Reduction in output response to specific non-compliances	WEM Rules and Technical Rules
	Disconnect a facility	Technical Rules

2.3 Shortcomings of the current framework

Shortcomings exist with the compliance and monitoring framework under the Technical Rules, including:

- a lack of visibility for AEMO regarding the standards that generators are required to comply with;
- a low uptake of formal self-monitoring programs by generators;
- no formal role for centralised, non-invasive monitoring of performance to verify compliance; and
- limited options to address non-compliance beyond a reduction in output or disconnection.

Recent non-invasive methods trialled by Western Power and AEMO to test the reactive power and frequency response of generators have indicated that there is a significant degree of non-compliance with performance standards across the power system.

2.3.1 Record

Generator performance standards are currently contained in contracts between Western Power and generators. Where generators have connected under the Technical Rules, there is some information available through the register of exemptions published by the ERA about which generators have been exempted from which standards. However, this register does not always state the alternative

standard applied. Additionally, there is no publicly available information about the reference standards, or any derogations from these, for generators that connected prior to the Technical Rules being introduced in 2007. The absence of this information can be problematic for AEMO in its system management role. While AEMO may have access to generator models, allowing it to model generator responses to changes in system conditions, it has no certainty about the standards that generators are required to adhere to, and whether these standards are reflected in the model. Additionally, while AEMO is responsible for overseeing system security, it is unable monitor compliance if it is not aware of a generator's contracted standard.

2.3.2 Monitor

Self-monitoring

Western Power's Technical Rules (and prior, the Technical Code) require participants to establish a self-monitoring program to confirm ongoing compliance with agreed standards. This includes the obligation to self-report any non-compliance detected.

In 2015 Western Power published its [Generator Compliance Monitoring Program Requirements](#) providing guidance on best practice development of a self-monitoring regime. This document includes guidance on compliance principles, the scope of technical requirements, appropriate tests and schedules for performance verification and model validation, and documentation to ensure the obligations are clear to relevant stakeholders. This negotiated framework allows generators to establish programs proportional to their requirements and available monitoring capabilities, including emphasising the use of non-invasive monitoring where it is available, noting that installing monitors may not be cost effective in some circumstances.

All generators, including those that connected prior to the Technical Rules, are required to monitor the capabilities and ratings of equipment on an ongoing basis and must ensure its continued safety and suitability as conditions on the power system change.⁶

To date, there has been a low level of engagement by generators with the formal program for managing self-monitoring and reporting. This lack of engagement means that Western Power, as the owner of the self-monitoring framework under the Technical Rules, cannot be sure that all generators are actively monitoring their equipment and reporting non-compliances as they occur.

Central monitoring

There are currently no provisions in the Technical Rules or WEM Rules that give AEMO or Western Power specific functions to carry out central monitoring for compliance purposes. However, AEMO has recently conducted trials of non-invasive central monitoring of frequency droop response to inform its model determining the procurement and use of essential system services. These tests have identified a significant level of non-compliance with generator performance standards at a whole-of-system level. For example, the trial monitoring of frequency droop response showed that a significant proportion of generators online at the time the monitoring was conducted either failed to provide the expected response or demonstrated an unusual response.

Western Power has also recently undertaken trials of central monitoring of reactive power response by synchronous generators in the SWIS. This exercise compared actual operational data over a 12-month period with the performance obligation described by each generator unit's capability

⁶ Technical Rules Clause 1.9.5.

curve. This monitoring showed that the reactive power absorption of some generators on the system was being constrained such that they were not performing to their reactive power obligations.

The results of trial tests demonstrate the potential efficacy of non-invasive methods of generator performance standard monitoring. The results also indicate there is likely to be a material divergence between the expectation and actual performance of generators in the SWIS in the event of an uncontrolled frequency or voltage disturbance.

2.3.3 Test

Western Power may require a generator to perform more invasive tests to demonstrate compliance with a performance standard, where they reasonably believe that a generating unit is not complying with one or more technical requirements.⁷

While AEMO has no formal powers under the WEM Rules to require a generator to carry out testing if it believes the generator is non-compliant, Western Power does have an obligation to provide AEMO with current and comprehensive data that it reasonably requires to model the static and dynamic performance of the power system, including generator computer models.⁸ This includes obligations to ensure data is complete and accurate, and promptly notify AEMO if there are reasonable grounds for suspecting that it is not. This may be an indirect way for AEMO to trigger a requirement for Western Power to carry out further testing if it cannot provide this data with a high degree of confidence in the data's accuracy.

AEMO also has the authority, in certain circumstances, to seek revised or additional data and an associated model validation report from a generator demonstrating to its reasonable satisfaction that the performance of the generator has been tested and is performing substantially in accordance with the revised modelling data.⁹

2.3.4 Enforce

The only enforcement options available to Western Power or AEMO are to require the generator to reduce its output¹⁰ or disconnect from the system.¹¹ This is an extreme course of action, that can itself jeopardise power system security or reliability.

Reduction in output

AEMO and Western Power can, in certain circumstances, direct a generator to operate at a specific output or in a particular mode until reasonably satisfactory evidence of compliance is provided that the generation unit is complying with a technical requirement.¹²

There is a difference between the powers that accrue to Western Power under the Technical Rules and AEMO under the WEM Rules.

- The Technical Rules allow Western Power to direct the generator to operate at a particular output where it has reason to believe a generator is non-compliant.

⁷ Technical Rules Clause 4.1.3(d).

⁸ WEM Rules Clause 2.28.3B.

⁹ WEM Rules Clause 2.28.3C.

¹⁰ Technical Rules Clause 4.1.3(e).

¹¹ Technical Rules Clause 4.1.3(f).

¹² WEM Rules Clause 2.28.3C, Technical Rules clause 4.1.3(e).

- The WEM Rules require AEMO to both be satisfied a generator's computer model does not represent actual performance *and* hold a reasonable opinion that the inadequacy of this data impedes its ability to carry out its functions in relation to power system security and power system reliability.

The provision in the WEM Rules is unlikely to be used for several reasons:

- It is a high threshold for AEMO to demonstrate that non-compliance would impede its ability to carry out its functions in relation to power system security and power system reliability, as it may be able to fulfil this function by procuring additional essential system services.
- To reduce the output of a generator in response to non-compliance with a generator performance standard may create other issues for power system security and reliability, depending on the type and location of the generator that has its output is reduced.
- This enforcement response may not always be proportional to the extent or effect of non-compliance with a performance standard. Any reduction in output resulting from an instruction to reduce output is treated as a forced outage under the WEM Rules.¹³ This forced outage restricts a generator's energy sold into the market as well as triggering an immediate requirement for a capacity refund.¹⁴ It would not always be appropriate to impose this on a generator in response to an instance of non-compliance.

Disconnection

Under the Technical Rules Western Power can disconnect a generator from the network if they:¹⁵

- give a direction to a generator to operate at a certain output and the generator neglects or fails or comply with that direction; or
- are unable to communicate a direction to operate at a certain output within a reasonable timeframe.

¹³ WEM Rules Clause 3.21.1aB.

¹⁴ WEM Rules Clause 4.26.

¹⁵ Technical Rules Clause 4.1.3(f).

3. Revised compliance and monitoring framework in the WEM Rules

This section explains the compliance and monitoring framework that the Taskforce has endorsed to apply under the WEM Rules, as summarised in Table 3.1 below.

Table 3.1: *New compliance and monitoring framework under the WEM Rules*

Element	Description of compliance and monitoring framework step	Create, retain or adapt
Record	Record generator performance standard in central register	Create
Monitor	Compliance Monitoring Program for self-monitoring and reporting non-compliance	Retain
	Establish a regime of centralised compliance monitoring of reactive power (voltage) and active power (frequency) requirements using non-invasive techniques	Create
Test	Detailed testing against agreed standards at commissioning	Retain
	Require generator to update computer model if there is a material disconnect with actual performance	Clarify/adapt
	Retain testing of generators where there is suspicion of non-compliance	Retain
Enforce	Establish a civil penalty response for non-compliances	Create
	Retain the ability to implement a reduction in output	Retain
	Retain the existing powers to disconnect a facility	Retain

3.1 Record

To facilitate transparency of generator performance standards for parties that have responsibility for system security or compliance, a central register of generator performance standards will be established under the WEM Rules. This register will contain information on the required performance for each standard for every generator that is connected to the transmission network and registered in the market. The register will be populated and maintained by Western Power, but available to AEMO and the ERA.

For new generators, the process for populating this register will be relatively straightforward. As generators finalise the connection process and confirm compliance with agreed standards during commissioning, the register will be populated with the relevant standard.

Throughout the next six months, a process will be developed to populate this register for generators already connected to the SWIS. The Taskforce will consult on this process but notes that generators will only be required to continue to comply with the standards agreed under their network access contracts. There is no intent to require any existing generators to perform to a different standard than currently contracted.

Taskforce Decision

- The framework for a register of generator performance standards will be established under the WEM Rules by mid-2020. This register will be populated for new generators during the connection process.
- The process for populating the register for existing generators will be subject to further consultation and finalised by September 2020.
- Existing generators will not be required to perform to a different standard than already exists under their network access contracts.

3.2 Monitoring

3.2.1 Self-monitoring

Consistent with the previous Taskforce decision to locate the generator performance standards in the WEM Rules, the obligations for generators to self-monitor performance will be transferred into the WEM Rules and AEMO will become the custodian of the self-monitoring framework.

A head of power will be established in the WEM Rules that allows AEMO to create a Market Procedure which sets out the requirements of the self-monitoring program, and a template self-monitoring plan.

The framework for self-monitoring plans will apply to both existing generators, and generators that connect in the future. Generators that connect in the future will be required to develop a self-monitoring plan consistent with the above template, which must be approved by AEMO prior to the generator receiving final approval to operate. The Taskforce recognises that adaptations to the way that the self-monitoring template applies to existing generators may be required to meet their reasonable needs, and consultation will occur on this matter over the next six months.

Once a self-monitoring plan has been approved, generators will be required to undertake monitoring in accordance with their plan and will be required to report to AEMO where non-compliance has occurred or is reasonably likely to occur. Powers will also be granted to AEMO and Western Power to request a copy of the outcomes of a generator's performance against its self-monitoring plan if the provision of the information would assist Western Power or AEMO in fulfilling its functions. The ERA will be able to request a copy of a self-monitoring report at any time for the purposes of verifying compliance with a generator's self-monitoring obligations.

Generators identifying and reporting non-compliance to AEMO may provide a rectification plan for approval by AEMO and Western Power. It is proposed that, for the period that a rectification plan is active, no compliance action will be taken against the generator. In the case where a rectification plan cannot be agreed, or in other circumstances such as repeated non-compliance, the non-compliance will be referred to the ERA for the appropriate compliance action. The process for rectification plans will be the subject of further work involving industry consultation throughout March and April 2020, with a paper expected to be released by the Taskforce in May 2020.

The requirement for a generator to adopt a self-monitoring plan for approval by AEMO; comply with an approved self-monitoring plan; and notify AEMO of any identified or suspected non-compliance, will be associated with a civil penalty provision under the WEM Rules (see section 3.4.1).

Taskforce decision

- The requirement for generators to self-monitor compliance with the generator performance standards will be relocated to the WEM Rules in the coming months and AEMO will become the custodian of the framework.
- While the self-monitoring framework will apply to all generators, existing and future, further consultation on how self-monitoring plans may be adapted for existing generators will take place over the next six months.

3.2.2 Central monitoring

While self-monitoring programs are the primary means by which monitoring will be undertaken under the new framework, central non-invasive monitoring can complement these programs, providing an additional, cost-effective way of ensuring compliance.

There are relatively simple, non-invasive methods available to monitor non-compliance with a subset of generator performance standards that affect the day-to-day operation of the power system. The SCADA collects data under normal conditions, and high-speed data recorders provide post system event monitoring. Active and reactive power and voltage is measured at the terminal of most generators. Table 3.2 below indicates a range of potential non-invasive methods for ongoing (e.g. post connection commissioning) tests as part of a central monitoring regime.

Table 3.2: Examples of non-invasive central monitoring methods

Technical role	Central test methods
Reactive Power Capability	<ul style="list-style-type: none">• Periodic review of reactive power contribution versus modelled requirement.
Voltage Control and Reactive Power Control	<ul style="list-style-type: none">• Periodic review of reactive power contribution versus modelled requirement.• High speed recordings of voltage stability issues following faults.
Active Power Control	<ul style="list-style-type: none">• Generator output response to a dispatch instruction.
Inertia and Frequency Control	<ul style="list-style-type: none">• Periodic AEMO frequency tests where system frequency is varied and response of machines is recorded versus modelled requirement.• High-speed data review following contingency frequency events.
Disturbance Ride Through (continuous uninterrupted operation)	<ul style="list-style-type: none">• Record of generator connection during contingency events using the high-speed recorder data detailed in monitoring.

The Taskforce does not consider it necessary for the WEM Rules to require that Western Power or AEMO carry out centralised monitoring on a regular basis. However, there is benefit in allowing AEMO and Western Power to undertake centralised monitoring, as required, to ensure it can monitor the behaviour of generators across the system and network for the purposes of managing power system security and reliability.

Taskforce decision

- AEMO and Western Power will be given functions under the WEM Rules to allow for central monitoring to be undertaken.

3.3 Testing

The existing powers to direct a generator to undertake further, more invasive testing to demonstrate compliance with agreed performance standards will be retained but some elements may be relocated to, or replicated in, the WEM Rules.

Work to improve the efficiency of processes and provide clarity for the commissioning and testing of generators is being undertaken through a related project under the Future Market Design and Operations workstream of the Strategy. Where relevant, the processes required to submit test plans to demonstrate compliance with generator performance standards will be included in the scope of this project. While processes, guidance and timing of testing may change, it is not expected that the types of tests that generators may undertake to demonstrate compliance with the generator performance standards will change significantly.

Taskforce decision

- The requirement for generators to conduct testing to demonstrate compliance with generator performance standards will be retained and some elements may be relocated to, or replicated in, the WEM Rules

3.4 Enforcement

As noted in section 1.3.2, the Taskforce is considering the over-arching framework for monitoring and compliance for the WEM Rules. This consideration may include increasing the range of options available to the ERA for enforcement. Any additional options endorsed by the Taskforce in relation to the WEM Rules generally may also apply to the enforcement of generator performance standards.

3.4.1 Civil penalties

There is an existing civil penalty framework under the *Electricity Industry Act 2004*, the Electricity Industry (Wholesale Electricity Market) Regulations 2004 (WEM Regulations) and the WEM Rules. This framework allows for certain WEM Rules to attract a civil penalty of not more than \$100,000 if contravened, and allows for an additional penalty of up to \$20,000 for each day that the contravention continues. Civil penalties can be issued by the ERA or the Electricity Review Board following an investigation of non-compliance with a WEM Rule that is associated with a civil penalty provision. The ERA can be notified of non-compliance by any WEM Rule participant or may discover the non-compliance through its own monitoring practices.

The purpose of a civil penalty is to promote the public interest by providing incentives for WEM Rule participants, including generators, to ensure they are compliant with the WEM Rules. Compliance with generator performance standards is in the public interest as, at a minimum, non-compliance increases overall market costs and in extreme cases can pose risks to power system security and reliability. As such, the Taskforce considers it appropriate for civil penalties to be associated with the requirement for a generator to comply with its performance standards and monitoring plan.

Compliance with generator performance standards will be measured against the standards set out in the register (see section 3.1). As noted in section 3.2.1, compliance action will not be taken against a generator that has self-reported non-compliance and has a rectification plan approved by AEMO.

Taskforce decision

Civil penalty provisions will be associated with WEM Rules that require generators to:

- comply with the relevant performance standards;
- have, and comply with, an approved self-monitoring plan; and
- report any non-compliance.

3.4.2 Reduction in output

It is important to ensure that AEMO and Western Power have a timely mechanism to address non-compliance where inaction could cause threats to power system security or reliability. Therefore, the ability for Western Power or AEMO to direct a generator that is not meeting its performance standards to operate at a particular level of output or in a particular manner will be retained.

Taskforce decision

- The ability for AEMO or Western Power to direct a generator to reduce its output where its non-compliance poses a threat to system security or reliability will be retained.

3.4.3 Disconnection

The existing powers for Western Power to disconnect a generator where it is unable to communicate a direction to operate at a certain output within a reasonable timeframe, or where a direction is communicated and not complied with, will be retained. It is expected that these powers would only be used in extreme cases where power system security is threatened.

Taskforce decision

- Western Power will retain the ability to direct a generator to be disconnected from the system if a generator does not comply with a direction to operate at a certain output, or if a direction to operate at a particular output cannot be communicated within a reasonable timeframe.

4. Next steps

The compliance and monitoring framework, as it applies to generator performance standards and to the WEM Rules more generally, will be progressed by the Taskforce through several work packages over the next six months, as shown in Figure 4.1 below.

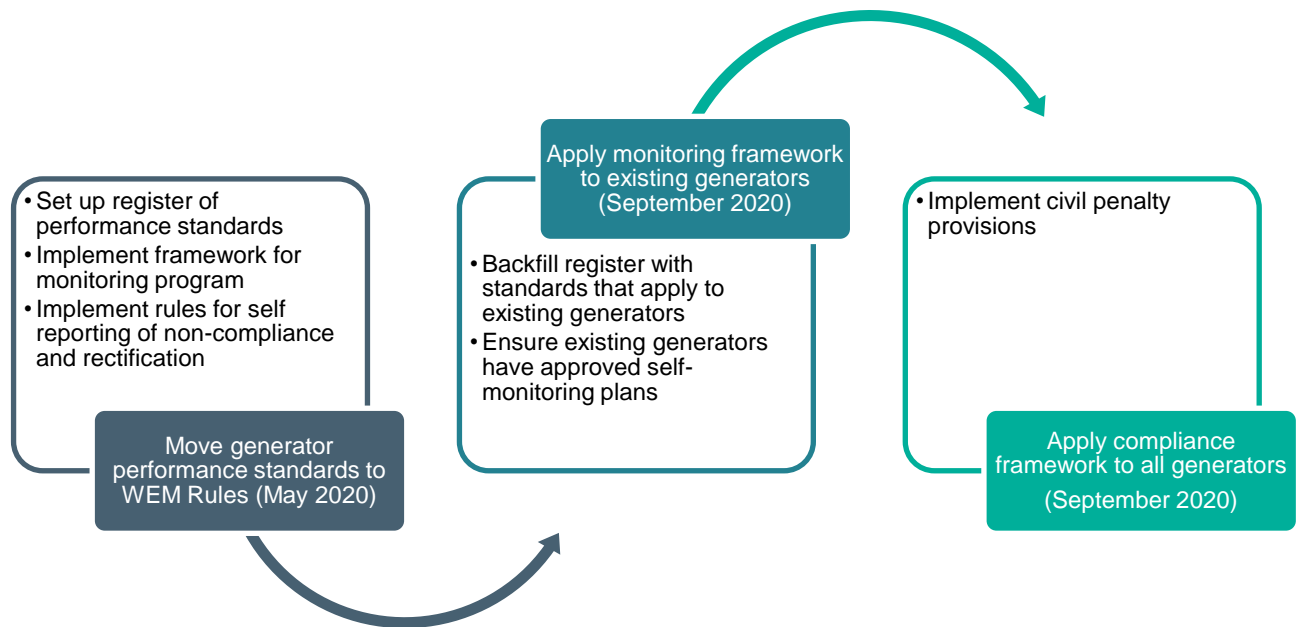


Figure 4.1: Process to implement the generator performance standards compliance and monitoring framework

For further information on the compliance and monitoring framework, or if you would like to meet with the Energy Transformation Implementation Unit to discuss any compliance and monitoring related matters, please contact energytransformation@energy.wa.gov.au.