
Reliability Panel AEMC

Final report

Compliance Template Review 2026

30 July 2026

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About the Reliability Panel

The Panel forms part of the AEMC's institutional arrangements and is comprised of members who represent a range of participants in the National Electricity Market, including small and large consumers, generators, network businesses, retailers and AEMO. It is responsible for monitoring, reviewing and reporting on reliability, security and safety on the national electricity system, and advising the AEMC in respect of such matters. The Panel's key responsibilities are specified in section 38 of the National Electricity Law.

Acknowledgement of Country

The AEMC acknowledges and shows respect for the Traditional Custodians of the many different lands across Australia on which we live and work. The AEMC office is located on the land of the Gadigal people of the Eora nation. We pay respect to all Elders past and present, and to the enduring connection of Aboriginal and Torres Strait Islander peoples to Country.



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Summary

- 1 The Reliability Panel (Panel) has published its final Template for compliance programs (Template) that has been amended to reflect recent changes to the National Electricity Rules (NER or Rules) and incorporate new technologies and processes related to compliance with plant performance standards. The final Template will be effective from 27 August 2026.
- 2 The revised Template now covers additional plant types other than generators, such as integrated resource systems (including utility-scale batteries), synchronous condenser systems, loads and HVDC links. It has also been updated to account for changes to the technical requirements in the NER since the Panel's last review in 2019, as well as changes in plant technology, compliance costs, and modern compliance practices. The final Template is largely consistent with the amendments made in the draft Template, with some minor changes to address stakeholder views.
- 3 The Template provides Registered Participants with guidance on instituting and maintaining effective compliance programs for their plant, consistent with good electricity industry practice. These compliance programs contribute to the safety, security and reliability of the power system by supporting plant compliance with technical performance standards.
- 4 This final report outlines the changes made to with respect to the previous Template, including how stakeholder feedback informed the Panel's development of the final Template.

The amendments to the Template will better support the development of compliance programs

- 5 The changes and amendments in the final Template from the previous Template include:
 - revised compliance principles to provide improved guidance to Registered Participants on the objectives and considerations for the development of compliance programs
 - new tables to guide the development of compliance frameworks for more plant types in addition to generating systems, such as integrated resource systems, synchronous condenser systems, loads, distribution networks and HVDC links
 - more detailed information and guidance on the broader compliance framework, where the existing Template is either silent or could benefit from additional clarification
 - more guidance on how to apply the tables in the Template to support selection of appropriate compliance regimes to demonstrate ongoing compliance with performance standards.
- 6 The final Template also reflects changes in compliance costs and plant technologies since the Panel's last review of the Template in 2019, as well as reflecting modern practices, by providing:
 - more information about the use of continuous plant monitoring, while also introducing new suggested monitoring methods in the compliance tables
 - guidance on considering how plant changes (including firmware or software updates of inverter-based resources) may affect compliance with performance standards
 - more information around the use of plant models, as well as additional guidance in the compliance tables on using plant models for compliance purposes.
- 7 In addition, the final Template accounts for changes to several technical requirements in the NER resulting from several rule changes, most notably the *Improving the NEM access standards - Package 1* Rule 2025.
- 8 See chapters 3 and 4 of the final report for more information.

The final Template includes a set of revised compliance principles

- 9 The Panel has strengthened the compliance principles in the final Template to provide more effective high-level guidance to Registered Participants when instituting, maintaining and updating their compliance programs. These changes include the addition of two new principles that relate to how Participants should consider plant changes (such as the replacement of plant equipment), and deviations from the Template, to promote better compliance behaviours. The final set of seven compliance principles reflects those consulted on in the draft Template, with minor formatting and clarifying amendments.
- 10 The revised compliance principles are listed below:
- Principle 1: Compliance programs must balance risks to power system security against the costs of implementing compliance regimes
 - Principle 2: Continuous plant monitoring is preferred where practicable, but not mandatory
 - Principle 3: Testing frequency should be proportionate to the risk of non-compliance
 - Principle 4: Compliance programs must provide reasonable assurance of ongoing compliance with plant performance standards
 - Principle 5: The impact of plant changes on compliance must be assessed
 - Principle 6: Compliance programs must align with good electricity industry practice
 - Principle 7: Variations from the Template must be consistent with the compliance principles.
- 11 For more information on the revised compliance principles, see chapter 2.

The final Template provides further information about the broader compliance framework

- 12 The final Template's guidance is largely consistent with the guidance presented in the draft Template, as stakeholders broadly supported the changes made.
- 13 Stakeholder feedback on our issues paper noted that while the existing Template generally provides useful information that assists Registered Participants with their compliance programs, some guidance and information could be improved, clarified or extended to cover other topics.
- 14 In the final Template, the Panel has included more detailed information and guidance about the broader compliance framework, including:
- plant changes and associated NER processes
 - the use of plant models, model validation and model updates
 - the kinds of information that Registered Participants should maintain as part of their compliance programs
 - actions to take upon a suspected non-compliance with a performance standard
 - market-based obligations that may relate to Registered Participants' performance standards
 - interdependent or concurrent requirements from multiple performance standards
- 15 For more information on the Panel's additional guidance on these topics, see chapter 3.

The final Template provides further guidance about how to interpret the compliance tables

- 16 To improve the effectiveness of the Template, the Panel has included more detail on how Registered Participants should interpret and apply the compliance tables when developing and amending their compliance programs. Notable additions include:
- guidance on the use of continuous plant monitoring in compliance programs
 - guidance on how to select an appropriate testing frequency for each regime

- guidance on the use of hardware-in-the-loop testing for compliance purposes
- providing examples for several defined terms that assist with event-based triggers for certain compliance actions.

17 For more information on the Panel's additional guidance and information on these topics, see chapter 4.

The final Template includes revised and new compliance tables to cover more plant types and account for changes to technical requirements

- 18 An important component of the Template is the suggested compliance methods (or regimes) for each technical requirement in the Rules. These methods are contained in 'compliance tables'. Registered Participants may apply these compliance tables and adapt them into their own compliance programs to demonstrate ongoing compliance with their performance standards.
- 19 Stakeholder submissions to the issues paper and draft report contained many suggestions for improvements to specific elements of the suggested compliance methods in the existing Template. The Panel has considered these stakeholder suggestions to revise the table in the existing Template and to develop new compliance tables for loads and HVDC links.
- 20 The final Template amends the compliance tables in the previous Template by:
- extending its application to integrated resource systems and synchronous condenser systems
 - restructuring the table to remove redundant or repetitive information while highlighting more useful information
 - incorporating new continuous plant monitoring methods and other supplementary methods
 - consolidating methods that were separate in the previous Template, to clarify the set of actions that a Registered Participant should take as a whole to demonstrate reasonable assurance of ongoing compliance
 - accounting for specific changes to the NER due to the [Improving the NEM access standards - Package 1](#) Rule 2025
 - including suggested compliance methods for two new technical requirements that were not covered by the previous Template
 - referencing related AEMO documents for certain technical requirements that are important considerations for Registered Participants when instituting their own compliance programs.
- 21 The final Template also creates new compliance tables for loads, distribution networks and HVDC links. When developing the new tables, the Panel has:
- mirrored the compliance methods for similar technical requirements for generating systems, where applicable
 - provided technology-specific guidance for different HVDC technologies, where applicable.
- 22 The Panel has also provided the compliance tables in a spreadsheet format for the first time, to aid the Template's usability. For more information on the changes made to the compliance tables, see chapter 5 and appendix A.

The Panel will submit a rule change request to provide flexibility around the timing of future reviews of the Template

- 23 As an outcome of this Template review, the Panel intends to submit a rule change request to the AEMC that would improve the flexibility of the timing of future Template reviews. Ideally, future Template reviews should align with AEMO's five-yearly review of the access standards and any

final rule made by the AEMC that amends the technical requirements in the NER.

24 This additional flexibility would be achieved by:

- retaining the minimum five-year review frequency in the NER, but only when there is no AEMC-issued standing Terms of Reference
- the AEMC issuing a standing Terms of Reference that would require the Panel to commence a review as soon as practicable after the completion of a Rule that amends the NER access standards.

25 This approach differs from the Panel's recommendation in the draft report. It addresses stakeholder concerns that removing the minimum timing requirements for the Panel's reviews could create regulatory uncertainty for Registered Participants.

26 Under the final recommendation, a Template review could be triggered by new or revised access standards in the NER through requirements in a standing Terms of Reference, or the introduction or proliferation of new plant technologies that may warrant a Template review. This would give the Panel greater flexibility to account for any changes to the technical standards in the NER, without being constrained by the existing rigid five-year period.

27 See chapter 6 for more information on this proposed rule change request.

The Panel's review is guided by the NEO and informed by stakeholder input

28 This final report follows a draft report published by the Panel on 2 April 2026, which sought stakeholder feedback and input on the Panel's draft Template. In response to the draft report, the Panel received seven stakeholder submissions. Stakeholder submissions provided the Panel with useful suggestions and considerations to improve the Template's effectiveness and clarity. Accordingly, the Panel has made some minor changes to create the final Template.

29 The final Template accounts for stakeholder concerns about the cost of implementing new compliance regimes, continuous monitoring and additional compliance obligations, while ensuring that it continues to encourage effective compliance programs for all existing and future plant in the NEM.

30 The Panel's review of the Template has also been guided by the National Electricity Objective (NEO) and the Panel's assessment criteria which are described in section 1.3.

Compliance programs must be consistent with the revised Template from 27 February 2027

31 The Panel has determined that the final Template will take effect from **27 August 2026**, which aligns with the expected completion date for this review. As such, existing compliance programs must be updated to be consistent with the revised Template by **27 February 2027**.

32 The Panel considers this six-month implementation timeframe is appropriate, as it is consistent with the NER requirements for instituting compliance programs for new plant within six months of registration or commencing operation.

33 This provides equitable treatment across new and existing Registered Participants, and recognises that the final Template largely builds on the existing compliance framework without introducing new mandatory compliance methods. See section 1.8 for more details on the Panel's consideration of the implementation timeframe.

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1 Introduction

The Reliability Panel (Panel) has published a final revised Template for compliance programs (Template) as part of its review of the Template. This review has been undertaken consistent with the terms of reference provided by the Australian Energy Market Commission (AEMC or Commission) on 11 December 2025.¹

After considering stakeholder feedback on the Panel's draft Template, as well as stakeholder engagement through bilateral meetings, the Panel has published a final Template that aims to improve its effectiveness, relevance and usefulness.

This chapter outlines:

- the role of the Template in the broader compliance framework
- the Registered Participants the Template applies to
- how the final Template meets the National Electricity Objective (NEO)
- how the revised Template addresses the issues in the AEMC's terms of reference
- how the revised Template has been informed by stakeholder feedback
- the rule change request the Panel intends to submit to provide greater flexibility in the timing of future Template review
- the Template's commencement date and implementation timeframe.

1.1 The Template is a key component of the broader compliance framework

Under the National Electricity Rules (NER or Rules), Registered Participants have obligations to ensure that their plant:²

- meets or exceeds the applicable performance standards
- is not likely to have a material adverse effect on power system security.

Effective compliance with performance standards by Registered Participants contributes to the delivery of reliable and secure electricity to customers in the NEM.

Under 4.15(b) of the NER Registered Participants who engage in the activity of planning, owning, controlling or operating a [plant](#) to which a performance standard applies must institute and maintain a compliance program which complies with [rule 4.15\(c\)](#). Registered Participants must create and maintain compliance programs which are consistent with the Template and provide reasonable assurance of ongoing compliance with their plant's technical performance standards. Furthermore, the Template is a key component of the Australian Energy Regulator's (AER) compliance framework, with a Tier 1 civil penalty attached to the failure of instituting and maintaining a compliance program complying with 4.15(c), which includes the compliance program being consistent with the Template.³

The NER requires a Registered Participant's compliance program to:⁴

- be consistent with the Template for compliance programs;

¹ The AEMC may give the Panel terms of reference in relation to specific Panel determinations and reviews under clause 8.8.3(c) of the NER.

² NER, rule 4.15(a).

³ NER, clauses 4.15(b).

⁴ NER, rule 4.15(c).

- include procedures to monitor the performance of the plant in a manner that is consistent with good electricity industry practice;
- be modified to be consistent with any amendments made under the Reliability Panel's review of the Template by no later than 6 months after amendments are published or by a date determined by the Reliability; and
- provide reasonable assurance of ongoing compliance with each applicable performance standard.

Under the NER, the Template must:⁵

- cover all performance standards (in other words, all possible performance standards that could be established in accordance with Chapter 5 and Schedules 5.2, 5.3 and 5.3a of the NER)
- define suitable testing and monitoring regimes for each performance standard so that a Registered Participant can select a regime that complies with the obligations set out in rules 4.15(a), 4.15(b) and 4.15(c) of the NER for their particular plant.

1.2 The Template applies to all Registered Participants who have plant with performance standards determined under schedules 5.2, 5.3 and 5.3a of the NER

Under the NER, many types of persons must institute and maintain compliance programs for their plant under rule 4.15(b). For example, an Integrated Resource Provider (IRP) typically owns or operates battery energy storage systems (BESS) and may also own or operate scheduled loads alongside scheduled or semi-scheduled production units.⁶

In addition, network service providers (NSPs) must determine and document the performance standards of any plant for which access standards are specified in schedules 5.2 or 5.3a of the NER (for example, a network's synchronous condensers or HVDC links), and that are not subject to a connection agreement with another person.⁷ These performance standards must be provided to the Australian Energy Market Operator (AEMO). NER rule 4.15(b) applies to NSPs in respect of these plant, meaning that NSPs must institute and maintain a compliance program for their schedule 5.2 plant or schedule 5.3a plant. Accordingly, the Template must also cover the performance standards that would apply to those types of plant.

See Table 1.1 for a non-exhaustive list of types of Registered Participants who may have plant to which performance standards may apply. In addition, see Table 3.1 of the Access Standards Package 1 [final determination](#) for a description of the terms *schedule 5.2 plant*, *schedule 5.3 plant* and *schedule 5.3a plant*.

Table 1.1: Registered Participants must have compliance programs for their registered plant

Type of Registered Participant	Relevant registered plant to which performance standards may apply	Applicable NER schedule
Generator	generating systems	Schedule 5.2

⁵ NER, rule 4.15(ca).

⁶ See AEMC, [Integrated Energy Storage Systems into the NEM](#) – final determination, figure 2.

⁷ NER, clause 5.2.3(c1).

Type of Registered Participant	Relevant registered plant to which performance standards may apply	Applicable NER schedule
Integrated Resource Provider	integrated resource systems or synchronous condenser systems	Schedule 5.2
	loads	Schedule 5.3
Network Service Provider ¹	synchronous condenser systems	Schedule 5.2
	distribution networks	Schedule 5.3
	HVDC links (with a transfer capability greater than or equal to 5 MW)	Schedule 5.3a
Market Network Service Provider	HVDC links (with a transfer capability greater than or equal to 5 MW)	Schedule 5.3a
Customer	loads	Schedule 5.3

Source: AEMC

Note: ¹Network Service Providers must also institute and maintain compliance programs for their protection and control systems - see NER clause 5.7.4(a1). However, rule 4.15(b) only applies to network service providers in respect of their schedule 5.2 plant (synchronous condensers), schedule 5.3 plant (distribution networks) and schedule 5.3a plant (HVDC links), and does not apply to its facilities that are covered by schedule 5.1. This is because the definition of *performance standard* does not include network performance requirements specified under schedule 5.1.

1.3 The Panel's review has been guided by the National Electricity Objective

The Panel applied the National Electricity Objective (NEO) in its work in accordance with the NER and as specified in the terms of reference issued by the AEMC.

The NEO is set out in section 7 of the National Electricity Law (NEL) as follows:

to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system; and
- (c) the achievement of targets set by a participating jurisdiction—
 - (i) for reducing Australia's greenhouse gas emissions; or
 - (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

The Panel has considered and balanced the emissions reduction component⁸ alongside the other components of the NEO (price, quality, safety, reliability and security of supply), in a way that promotes the long-term interests of electricity consumers.⁹

⁸ NEL section 7(c), as inserted by the Statutes Amendment (National Energy Laws) (Emissions Reduction Objectives) Act 2023 (SA). For the Panel, this change took effect in November 2023, under NEL Schedule 3 clause 39.

⁹ AEMC, [Reliability Panel guide to applying the emissions component of the National Electricity Objective](#), 4 April 2024, p. 2.

1.3.1 The Panel's assessment criteria have guided this review

The Panel has assessed the final Template against the three assessment criteria outlined below and analysed stakeholder feedback in relation to these criteria:

- **Safety, security and reliability** – the Template should support the development of effective compliance programs that contribute to the safety, security and reliability of the power system, while minimising the risk that consumers bear the cost of overly onerous compliance regimes.
- **Innovation and flexibility** – the Template should facilitate new technologies and a broad range of plant types, and not unnecessarily constrain innovation.
- **Principles of good regulatory practice** – the Template should be clear so that Registered Participants can apply its guidance to develop compliance programs that are consistent with 'good electricity industry practice'. It should also balance prescription and flexibility to account for a wide range of different circumstances and plant technologies while ensuring the AER can effectively carry out its compliance and enforcement functions.

The final Template incorporates stakeholder feedback on the draft Template, and considers that the final Template achieves the NEO by:

- **Supporting the development of effective compliance programs that contribute to the safety, security and reliability of the power system** – the final Template provides guidance on testing and monitoring regimes that support ongoing compliance with performance standards. It strengthens the focus on power system security within the compliance principles and promotes a risk-based approach that balances the materiality of potential non-compliance against the costs and risks of testing and monitoring regimes.
- **Accommodating new technologies and a broad range of plant types** – the final Template reflects changes to the NER technical standards and provides suggested testing and monitoring methods for a wider range of plant types. At the same time, it provides flexibility for Registered Participants to develop plant-specific compliance programs that reflect differing technologies, operating characteristics and risk profiles.
- **Providing clearer guidance to support Registered Participants develop compliance programs consistent with good electricity industry practice** – the final Template includes a set of revised compliance principles, updated guidance and improved compliance tables that together improve the Template's usability and effectiveness. Together, these will assist Registered Participants in creating compliance programs in line with good electricity industry practice.

1.4 The final Template has addressed the issues raised in the Commission's terms of reference

This final report is part of the Panel's Compliance Template Review, which is consistent with the terms of reference issued by the AEMC on 11 December 2025.¹⁰

The Commission requested that the Panel amend the Template to reflect changes to the NER following implementation of the Access Standards Package 1. This includes:¹¹

- changes to the Template to account for changes to the technical requirements in schedules 5.2, 5.3 and 5.3a of the NER

¹⁰ AEMC, [Terms of reference to the Reliability Panel](#), Template for compliance programs review 2026.

¹¹ Ibid., p. 2.

- broadening the Template to apply to plant types other than generators, such as integrated resource systems, synchronous condenser systems, loads, distribution networks and HVDC links.

The Commission's terms of reference also suggested that the Panel consider whether:¹²

- there have been any changes to technology or cost that should be reflected in the Template
- the compliance principles set out in the Template remain fit for purpose
- there have been any other material changes to the NER that impact the Template
- there are opportunities for the Template to be amended or restructured to improve the application of the Template in guiding compliance programs.

The final Template includes significant revisions that respond to the objectives set out in the terms of reference for the review and stakeholder submissions to the issues paper. The key changes in the final Template include:

- **a new set of compliance principles** (see chapter 2 for more information), which:
 - strengthens the compliance principles so that they provide more effective high-level guidance to Registered Participants when instituting, maintaining and updating their compliance programs
 - adds two new principles relating to plant changes and deviations from the Template, to promote better compliance behaviours
 - makes editorial improvements to improve the clarity and concision of the compliance principles
- **more detailed information and guidance about the broader compliance framework**, including:
 - plant changes and associated NER processes (see section 3.1)
 - the use of plant models, model validation and model updates (see section 3.2)
 - the kinds of information that Registered Participants should maintain as part of their compliance programs (see section 3.3)
 - actions to take upon a suspected non-compliance against a performance standard (see section 3.5)
 - market-based obligations that may relate to Registered Participants' performance standards (see section 3.6)
 - interdependent or concurrent requirements from multiple performance standards (see section 3.7)
- **more detailed guidance about how to interpret and apply the compliance tables in the Template**, including:
 - the use of continuous plant monitoring in compliance programs (see section 4.2)
 - how to select an appropriate testing frequency for each regime (see section 4.3)
 - the use of hardware-in-the-loop testing (see section 4.4)
 - clarification on several defined terms that assist with event-based triggers for certain compliance actions (see section 4.5).
- **amended compliance program tables for generating systems, integrated resource systems and synchronous condenser systems**, by:

¹² Ibid.

- restructuring the table to remove redundant or repetitive information while highlighting more useful information (see section 5.2)
- incorporating new continuous plant monitoring methods and other supplementary methods (see section 5.3)
- accounting for changes made to the NER from the Access Standards Package 1 rule change (see section 5.4)
- inclusion of two new technical requirements that are not covered by the existing Template (see Tables A.15 and A.16 of the final Template)
- referencing related AEMO documents for certain technical requirements that are important considerations for Registered Participants when instituting their own compliance programs (see sections A.21, B.11 and C.16 of the final Template).
- **new compliance program tables for loads, distribution networks and HVDC links** (see section 5.5), by:
 - mirroring the compliance methods for similar technical requirements for schedule 5.2 plant, where applicable
 - providing technology-specific guidance for different HVDC technologies, where applicable.

1.5 The final Template has been informed by stakeholder input

This final report follows on from a draft Template published by the Panel on 2 April 2026. The draft Template made the following amendments to the previous Template:

- **expanded the Template to cover a broader range of plant types:** the draft Template provided monitoring and testing methods for all Registered Participants with performance standards under schedules 5.2, 5.3 and 5.3a of the NER
- **updated the Template to reflect new and amended technical requirements:** the draft Template provided monitoring and testing methods for all access standards in the NER, including those amended through Access Standards Package 1
- **updated the Template to reflect changes in technologies and costs:** the draft Template updated existing and provided new guidance on instituting compliance programs for different types of plant.

In response to the draft Template, the Panel received seven stakeholder submissions that have helped refine its development of the final Template.

The Panel considers that, through the revision of the compliance tables, the compliance principles and updated guidance, the final Template better reflects a broader set of plant types, new and amended technical requirements and changes in costs and technologies.

1.6 The Panel recommends a rule change that would improve the compliance framework

Throughout this review, the Panel has considered the effectiveness and efficiency of the NER compliance framework and consulted on potential rule changes to improve its operation. Having considered stakeholder feedback, the Panel intends to submit a rule change request to the AEMC that would provide greater flexibility in the timing of future reviews of the Template for compliance programs.

The Panel considers that better aligning future Template reviews with changes to the NER access standards would improve the effectiveness of the compliance framework by ensuring that the

Template remains current and reflects the technical requirements in the NER. Stakeholder responses to the draft report broadly supported this proposal. The Panel will request that the rule change be assessed under the fast-track process.

The Panel also investigated a proposal to expand the scope of the Template to cover all performance standards and any related NER obligations, to the extent that they relate to performance standards. However, considering stakeholder feedback, the Panel has decided not to progress this proposal and considers that the current scope of the Template remains appropriate.

The Panel did not receive any further suggestions for rule changes that would improve the compliance framework.

See chapter 6 for more information on the Panel's proposed rule change request.

1.7 The Panel may commence a targeted review of the Template as a result of Access Standards Package 2

The Panel is aware that the draft rule for [Improving the NEM access standards - Package 2](#) (Access Standards Package 2) proposed to make changes to the access standards in Schedule 5 of the NER, and any final rule (if made) is likely to amend the access standards in Schedule 5 of the NER. Following the AEMC's completion of the Rule, if changes to the access standards are made, the Panel expects that the AEMC may request another review of the Template to account for any modified access standards.

To ensure that the Template remains aligned with the NER, any resulting changes to the access standards are likely to necessitate a subsequent review of the Template. Given that this review has had two rounds of consultation and has updated the Template's broader guidance, compliance principles and supporting material accordingly, the Panel considers that any future review arising from the Access Standards Package 2 Rule would likely focus on updates to the compliance tables and any related guidance that is required to reflect any revised access standards.

Therefore, in the event that the AEMC considers it desirable to request the Panel to initiate a new review following the Access Standards Package 2 Rule, the Panel encourages the AEMC to issue a terms of reference that only requires one round of consultation. This would also ensure the Template is updated sooner, thereby facilitating any implementation of the Access Standard Package 2 Rule by providing the industry with useful compliance information.

For more information on the Template's application to owners and operators of loads who may not be Registered Participants, see section 5.5.1.

1.8 Compliance programs must be consistent with the revised template by 27 February 2027

Under NER rule 4.15(c)(3), a Registered Participant's compliance program must be modified to be consistent with any amendments to the Template, by no later than six months after amendments to the Template are published or by a date determined by the Panel. The Panel has determined that the final Template takes effect from 27 August 2026, which aligns with the expected completion date for the review.¹³ Registered Participants will have until 27 February 2027 to make any necessary amendments to their compliance programs to be consistent with the updated Template.

¹³ Following the publication of the Panel's draft report, on 25 March 2026, the Commission approved the Panel's request for a two-month extension to the completion of the review to 27 August 2026. See the [Panel's letter to the Commission](#), and the [Commission's reply to the Panel](#).

The Panel notes that this implementation timeframe aligns with the six-month period for creating compliance programs for new plant, based on the expected completion date for the review of 27 August 2026. Registered Participants have no more than six months to institute and maintain a compliance program after the day that AEMO gives notice that their plant is registered, or after the day on which the plant commences operation.¹⁴

In submissions to the draft Template, two stakeholders requested that the Panel give a longer period than six months to update existing compliance programs to be consistent with the new Template.¹⁵ APA requested that the Panel consider providing a longer implementation period, while Marissa McCauley suggested a tiered implementation timeframe, where 12 months would be granted for more complex compliance programs.

The Panel has considered these requests for a longer transition period. However, it has retained the default six-month implementation period as described by NER rule 4.15(c)(3), allowing for the expected completion date for the review. Although the final Template has made some substantial amendments to the previous Template, the Panel considers that:

- a longer implementation period for the Template would not promote regulatory clarity and certainty. Due to the six-month NER requirement for new compliance programs,¹⁶ a longer implementation period would mean that some Participants would have only six months to create a new compliance program, while other Participants for incumbent plant would have a longer period to update their existing programs. The Panel considers that updating an existing compliance program is likely to be less onerous than developing a new one from scratch, and so such an extension would not necessarily align with good regulatory practice.
- the final Template retains many of the compliance methods in the previous Template, increasing the likelihood that existing compliance programs do not require substantial amendments to be consistent with the final Template
- the final Template generally does not require the retroactive amendment of existing compliance methods, so long as existing compliance methods provide a reasonable assurance of ongoing compliance with the plant's performance standards, are consistent with the compliance principles, and reflect good electricity industry practice.
- no new mandatory requirements for specific compliance methods have been added, as the compliance tables provide flexibility for Participants to deviate from specific details in the Template.

¹⁴ NER, rule 4.15(b).

¹⁵ Submissions to the draft Template paper: APA, p. 4; Marissa McCauley, p. 3.

¹⁶ NER, rule 4.15(b).

1.9 Structure of this final report

The remainder of this final report is structured as follows:

- **Chapter 2** sets out the Template's compliance principles, which provide high-level guidance to Registered Participants when instituting, maintaining or updating their compliance program(s)
- **Chapter 3** discusses the Panel's amendments and additions to the Template's information and guidance about the broader compliance framework
- **Chapter 4** discusses the Panel's guidance about how to apply and interpret the Template's compliance tables
- **Chapter 5** summarises the Panel's amendments to the Template's compliance tables
- **Chapter 6** discusses the two rule changes investigated by the Panel throughout this review, which aimed to improve the cadence and content of future Panel reviews of the Template.

2 The final Template includes revised compliance principles

The final Template has updated the set of compliance principles that guide Registered Participants on instituting, maintaining and updating their compliance programs. These principles reflect the Panel's approach to developing the revised Template through this review and are designed to support Registered Participants in developing compliance programs consistent with the Template and good electricity industry practice, as required by NER rule 4.15(c).

This set of seven compliance principles reflects those consulted on in the draft Template, with minor formatting and clarifying amendments in response to stakeholder feedback. These principles revise and consolidate the principles in the previous Template and introduce two new compliance principles that provide guidance with respect to:

- The expectation for a Registered Participant to assess the impact of plant changes on compliance (principle 5)
- The expectation that variations from the Template must be consistent with the Compliance principles (principle 7).

Box 1 sets out the revised compliance principles and section 2.1 describes the Panel's reasoning with respect to each of the revised compliance principles, including how the Panel has incorporated and responded to stakeholder feedback.

Box 1: Final revised compliance principles

Principle 1: Compliance programs must balance risks to power system security against the costs of implementing compliance regimes

When selecting, developing or amending a testing or monitoring regime for a performance standard, a *Registered Participant* must consider and balance the materiality related to the costs and benefits of implementing a compliance regime. This includes consideration for the costs and risks related to undertaking testing, against the risk of non-compliance with a *performance standard* and the likelihood for a plant to cause a material adverse effect on power system security.

Principle 2: Continuous plant monitoring is preferred where practicable, but not mandatory

Subject to Principle 1, and where it is practicable to do so, a *Registered Participant* should institute continuous monitoring regimes to analyse *plant* performance during events, disturbances and normal operation to demonstrate ongoing compliance against its *performance standards*. Where continuous monitoring is not practicable, a *Registered Participant* must document its reasons and implement alternative monitoring and testing regimes that provide reasonable assurance of ongoing compliance.

Principle 3: Testing frequency should be proportionate to the risk of non-compliance

A *Registered Participant* is accountable for testing the functionality and integrity of relevant systems and settings to ensure compliance with the *plant's performance standards*, in accordance with the *plant's* compliance program. The frequency of such tests should take into account the expected variation of plant performance over time and the related risk of a potential non-compliance against the *plant's performance standards*.

Principle 4: Compliance programs must provide reasonable assurance of compliance with plant performance standards

A *Registered Participant's* active use and implementation of a compliance program must provide

reasonable assurance of ongoing compliance with the *plant's performance standards*. As part of a *Registered Participant's* compliance management framework, a *Registered Participant* should review and update its compliance program(s) periodically.

Principle 5: The impact of plant changes on compliance must be assessed (NEW)

Where *plant* performance is reasonably likely to be affected by hardware modifications, equipment replacements, software updates, firmware changes, or any similar *plant* change, a *Registered Participant* must promptly assess whether such changes could have an impact on their compliance with their existing *performance standards* or require updates to any data and models previously provided to AEMO and the relevant *Network Service Provider*.

Principle 6: Compliance programs must align with good electricity industry practice

The Template supports the development of compliance programs which align with and represent *good electricity industry practice*. The Template specifies the objectives and outcomes to be achieved by each suggested testing or monitoring regime, and an appropriate test interval. Using the Template as a guide, a *Registered Participant* should exercise diligence and *good electricity industry practice* to determine the detailed methods and procedures to be employed as part of a compliance program for its *plant*.

Principle 7: Variations from the Template must be consistent with the Compliance principles (NEW)

Where a *Registered Participant's* compliance program deviates from the guidance or suggested testing and monitoring regimes set out in this Template, or actual testing and monitoring deviates from a *plant's* established compliance program, a *Registered Participant* must ensure that the variation is consistent with these compliance principles. A *Registered Participant* must document the reasons for any variation, having regard to these compliance principles.

2.1 The Panel has developed the revised compliance principles with reference to stakeholder feedback

Stakeholders were broadly supportive of the revised consolidated set of compliance principles included in the draft Template. The feedback received sought minor amendments to clarify the intent of each principle and improve formatting. The following subsections outline the rationale of each principle and how stakeholder input has been incorporated in the compliance principles for the final revised Template.

2.1.1 Principle 1 – Compliance programs must balance risks to power system security against the costs of implementing compliance regimes

Principle 1 provides guidance on how Registered Participants should balance the costs of implementing compliance regimes against the risks associated with potential non-compliance. Specifically, it encourages Registered Participants to adopt a proportionate approach to testing and monitoring, having regard to the costs and risks associated with undertaking testing, the risk of non-compliance with a performance standard and the potential for a plant to adversely affect power system security. This principle consolidates principles 3 and 6 of the previous Template, which addressed the roles of materiality and efficiency in the development of compliance programs.

The final principle incorporates feedback from Energy Australia regarding the role of AEMO and Registered Participants in maintaining power system security.¹⁷ EnergyAustralia noted that

¹⁷ EnergyAustralia, submission to the draft Template, p. 1.

responsibility for the assessment and management of power system security rests with AEMO under clause 4.3.1 of the NER, whereas Generators have an obligation under rule 4.15(a) to ensure their plant meets or exceeds applicable performance standards and does not materially adversely affect power system security.¹⁸ The Panel recognises this distinction and has amended the drafting to better reflect the obligations on Registered Participants under rule 4.15(a)(2) for a Registered Participant to ensure that its plant is not likely to cause an adverse impact on power system security through failure to comply with a performance standard.

At the same time, the Panel considers it important that Registered Participants assess compliance risks with regard to their potential impact on power system security. A plant's non-compliance may appear immaterial when considered in isolation, but where similar non-compliances occur across multiple plants, the cumulative impact may be significant.

Through bilateral discussions with AEMO, the Panel further considers that the emphasis of this principle should remain on supporting power system security. While compliance programs should account for the costs and risks associated with testing and monitoring activities, these considerations should be assessed in the context of the potential risks arising from non-compliance. To better reflect this intent, the title of the principle has been amended to place greater emphasis on power system security.

2.1.2 Principle 2 – Continuous plant monitoring is preferred where practicable, but not mandatory

Principle 2 explicitly articulates an updated expectation that continuous plant monitoring (CPM) – which includes disturbance or event-based monitoring – is preferred, where practicable. This principle consolidates and expands on principles 7 and 8 in the previous Template, which related to disturbance or event-based monitoring regimes and other testing methods to provide assurance of compliance. The preference for continuous monitoring was not explicit in the original principles.

This principle reflects the increased relevance and ease of implementing CPM regimes for modern connections, while allowing alternative compliance regimes to be applied where CPM is not practicable. Where it is practicable to do so, the Panel considers that the benefits of CPM for system security reasons generally outweigh the potential costs to the Registered Participant who conducts the monitoring.

Stakeholders broadly supported the inclusion of this principle in the Template.¹⁹ In response to stakeholder feedback, a minor amendment has been made to the title of this compliance principle to clarify that CPM is preferred where practicable, but not mandatory. EnergyAustralia noted that the Template should be consistent in its approach to CPM, particularly between this principle and the guidance in section 4.6.²⁰

The Panel has not adopted EnergyAustralia's further suggestion to explicitly reference plant approaching the end of its commercial life as a distinct circumstance in which CPM may not be practicable. The Panel considers that this principle should remain a high-level statement of general application, rather than identify specific circumstances or exceptions. Instead, plant approaching the end of its commercial life has been included as an example of where CPM may not be practicable in section 4.6 of the final Template.

18 EnergyAustralia, submission to the draft Template, p. 1.

19 Submissions to the draft Template, Alinta Energy, p. 1; APA, p. 2; Marissa McCauley, p. 1; VeriConneX, p. 1.

20 EnergyAustralia, submission to the draft Template, p. 3.

2.1.3 Principle 3 – Testing frequency should be proportionate to the risk of non-compliance

Principle 3 describes how compliance programs should account for plant variation over time. It reflects the intention behind previous principles 1 and 2; however, it is targeted towards basing the frequency of testing on the expected variation of plant performance over time and the risk of potential non-compliance with a plant performance standard.

This principle has not been amended in the final Template, as the Panel did not receive stakeholder feedback proposing any changes.

2.1.4 Principle 4 – Compliance programs must provide reasonable assurance of compliance with plant performance standards

Principle 4 states that compliance programs must provide reasonable assurance of ongoing compliance with a plant's performance standards. This principle 4 reflects previous principles 4, 8 and 10, which related to the frequency of updating compliance programs and the means of conducting testing methods to provide assurance of compliance with performance standards.

This principle has not been amended in the final Template, as the Panel did not receive stakeholder feedback proposing any changes. EnergyAustralia expressed its support for this principle.²¹

2.1.5 Principle 5 – The impact of plant changes on compliance must be assessed

Principle 5 is a new compliance principle that provides guidance for Registered Participants to assess whether changes to their plant would have an impact on their compliance with performance standards. This principle embeds the expectation that a Registered Participant must promptly assess whether plant performance has been affected by any plant changes. Furthermore, it clarifies an expectation that Registered Participants should identify the impact of plant changes on data and model validity in a timely manner (that is, they should not wait for months or years after a relevant plant change to assess its impact and notify AEMO or the NSP of the change).

A minor amendment has been made to this principle in the final Template to clarify that the obligation applies where plant performance is **reasonably likely** to be affected by a plant change.²² This amendment responds to stakeholder feedback that the draft Template's phrasing could result in onerous and repetitive assessments in circumstances where a plant change is highly unlikely to affect plant performance (for example, certain types of routine maintenance or like-for-like replacements).²³ By making this change, the Panel does not intend to weaken the obligation on Registered Participants to prudently assess the impact of plant changes on compliance with their performance standards. Rather, the amendment reflects the principle that testing and monitoring methods should be proportionate to the materiality of risk.

This compliance principle also refers to 'data and models previously provided to AEMO and the relevant Network Service Provider.' The Panel intends for the principle to refer to data and model information provided during or after the connection process, where required under the NER or a Registered Participant's performance standards. For example, Schedule 5.5 of the NER and AEMO's [Power System Model Guidelines](#) requires Registered Participants to provide AEMO and Network Service Providers with models and supporting information, including relevant data sheets

21 EnergyAustralia, submission to the draft Template, p. 2.

22 See page 4 of the final Template. The draft principle read 'Where *plant* performance **may** be affected...'

23 Alinta Energy, submission to the draft Template, p. 2.

specifying the plant's technical data and specifications. This clarification has been added to section 3.1 of the final Template.

2.1.6 Principle 6 – Compliance programs must align with good electricity industry practice

Principle 6 reinforces the importance of ensuring that compliance programs are consistent with good electricity industry practice. This principle largely reflects principle 5 of the previous Template and aligns with the NER's requirements. In particular, rule 4.15(c)(2) requires compliance programs to include procedures for monitoring plant performance that are consistent with good electricity industry practice.

To supplement this, the Panel also notes that the Template provides guidance on what constitutes good electricity industry practice in the context of instituting testing and monitoring compliance with performance standards. This is by setting out the objectives, outcomes and testing intervals associated with the suggested compliance methods.

This principle remains unchanged from the draft Template. The Panel did not receive any stakeholder feedback proposing amendments and notes that VeriConneX expressly supported the principle.²⁴

2.1.7 Principle 7 – Variations from the Template must be consistent with the Compliance principles

Principle 7 is a new compliance principle that establishes expectations for circumstances in which a Registered Participant's compliance deviates from either the guidance in the Template or the plant's established compliance program. The principle requires any variation to remain consistent with the compliance principles and be appropriately documented.

This principle has been expanded in the final Template to explicitly address circumstances where actual testing and monitoring deviate from a plant's established compliance program. This amendment responds to CS Energy's feedback, which considered that it would be helpful for the Template to provide guidance on managing operational variations from an established compliance program in addition to variations from the guidance in the template.²⁵

This approach ultimately promotes a proportionate and risk-based approach to compliance while providing flexibility to accommodate plant-specific circumstances. Section 3.3.1 of the final Template provides further guidance on the application of this principle, including examples of circumstances that may justify a variation from the Template.

24 VeriConneX, submission to the draft Template, p. 1.

25 CS Energy, submission to the draft Template, p. 1.

3 The final Template includes more detailed information about the compliance framework

Chapter three of the Template provides Registered Participants with useful information about the broader compliance framework, enabling the development and implementation of high-quality compliance programs that benefit the NEM. These topics include:

- how Participants should consider the potential impact of any plant changes on the system (section 3.1 of the Template)
- the role of models and model validation in relation to compliance programs (section 3.2 of the Template)
- records that should be kept as part of a compliance program (section 3.3 of the Template)
- how to consider dry stored (or ‘mothballed’) plant (section 3.4 of the Template)
- how to consider the performance of remote equipment operated by another party, where it is contributing to meeting a plant’s performance standard (section 3.5 of the Template)
- NER requirements and Panel expectations about how potential non-compliances should be dealt with (section 3.6 of the Template)
- how Participants should consider interdependent performance standards (section 3.7 of the Template)
- the Template’s interaction with older performance standards that are not necessarily reflected in the current version of the NER.(section 3.8 of the Template).

The Panel has reviewed the existing Template, taking into account all stakeholder feedback, and has developed a revised Template that provides further information and guidance on several aspects of the compliance framework.

Sections 3.1 to 3.7 in this chapter outline guidance that the Panel has added to chapter 3 of the Template. Section 3.8 outlines the Panel’s consideration of stakeholder feedback that requested that the Template clarify the roles of intermediaries and third parties.

3.1 Plant changes and impacts on compliance

To complement compliance principle 5, the Template now provides information and guidance to Registered Participants on their obligations for incorporating plant changes into their compliance program.²⁶ In addition, the Template’s guidance encourages Participants to consult and collaborate with their NSP and AEMO when considering potential plant changes. Managing the potential impact on compliance from plant changes over the lifetime of all plant is important for power system security, especially through several software and firmware updates that can affect IBR performance.

The updated information in section 3.1 of the Template includes:

- references to NER clauses and obligations that Registered Participants should take into account, including NER clauses 5.3.9, 5.3.12, S5.2.2, S5.3.4 and S5.3a.2
- brief explanations of which clauses apply to which types of plant
- references to AEMO’s recently released [NER 5.3.9 Process Guideline](#) and [5.3.9 webpage](#).

26 Compliance principle 5 requires Registered Participants to assess the impact of potential plant changes on compliance – see section 2.1.5.

The revised Template also includes examples of relevant plant changes that could impact a plant's compliance with its performance standards, which complements the intent of compliance principle 5. These include (but are not limited to):

- hardware modifications, such as the addition of new auxiliary equipment
- equipment replacements, such as the replacement of an ageing transformer
- software updates or firmware changes, such as an update for an inverter's control systems or settings.

The updated compliance method tables in the Appendices of the draft Template also provide more information on plant changes, including guidance on when it is appropriate to conduct additional performance testing or monitoring, following plant changes.

Additionally, the Panel has added guidance in section 3.1 of the final Template to Registered Participants that any changes to data and models previously provided to AEMO and the relevant NSP must be promptly updated following any relevant plant change. See section 2.1.5 for stakeholder feedback and further discussion on this topic.

As the Panel received no further stakeholder feedback on the contents of section 3.1 of the draft Template, no other changes have been made between the draft and final Template.

3.2 Model validation and updates

The use of plant models and simulations has become increasingly vital to maintaining power system security, as it provides NSPs and AEMO with critical information about how plant and the broader network behave in a rapidly evolving energy transition.

As required by the NER, specific requirements for models are detailed in AEMO's [Power System Model Guidelines](#).²⁷ The final Template does not seek to prescribe model requirements that would override or contradict AEMO's guidelines; instead, the Panel has provided only high-level and best-practice guidance on how Registered Participants should use and validate models in their compliance programs, in line with their NER obligations.

Compared to the previous Template, section 3.2 of the final Template has added information regarding the following model-related topics:

- **Compliance programs can complement R2 model validation** - the Template now provides examples of when R2 model validation may be incomplete, such as when a suitable power system event required to demonstrate compliance has not yet occurred.
- **Compliance programs should detect when models are out-of-date** - The Panel considers that, where models are readily available to the Registered Participant, compliance programs should be developed to detect when models are inaccurate or out-of-date,²⁸ and where ongoing periodic model validation could be included as part of a compliance program.²⁹ To supplement this, the Panel has also included supplementary methods in the Template's compliance tables for clauses S5.2.5.5, S5.2.5.13, S5.3a.13 and S5.3a.14, as a prompt to Registered Participants to ensure that their control system settings are consistent with the models provided to the NSP and AEMO.³⁰

²⁷ NER, clause S5.5.7(a)(3).

²⁸ This expectation was preserved from the previous Template; see section 2.9 (p. 9) of the previous Template for compliance programs.

²⁹ This addition was supported by AEMO: see its submission to the draft report, pp. 2-3.

³⁰ For example, see Table A.5, Table A.13, Table C.13 and Table C.14 of the Template.

- **Model overlays can be an effective means of demonstrating compliance** - the Template notes that model overlays can be used to demonstrate compliance against certain performance standards, provided the model has been validated.³¹
- **Registered Participants must provide updated and accurate models to AEMO and the relevant NSP** - the Template reminds Registered Participants that when they become aware that their previously supplied models, data, or information is incomplete, inaccurate or out of date, they must promptly provide updated information to AEMO within 5 business days in accordance with NER clause 5.3.8(f). For completeness, the Panel considers that the Registered Participant should also promptly provide the updated information to the relevant NSP.

The Panel considers that this guidance (and the guidance on plant changes discussed in section 3.1) accounts for the risks of ‘model drift’, whereby successive firmware and software updates affect a plant’s actual behaviour, relative to its modelled behaviour, as provided during the commissioning process.³²

In addition, the use of plant models to demonstrate compliance has been added throughout several compliance methods in Appendices A and C of the final Template.³³

3.2.1 The Template encourages periodic model validation for compliance programs

In section 3.2.2 of the final Template, it explains that a Registered Participant’s compliance program:

should be sufficient to detect situations when the model information supplied to AEMO and the relevant NSP is incomplete, inaccurate, or out of date.

It explains that a compliance program with regimes that enable the Registered Participant to perform periodic model validation would reflect good electricity industry practice, and may also help a Registered Participant comply with an NSP’s review of data provided under Schedule 5.5 of the NER.³⁴

In its submission to the draft report, although AEMO supported the Template’s inclusion of the guidance described above, it suggested that the Panel should consider the use of periodic model validation in the Template.³⁵ It explained that although continuous plant monitoring can identify when models are out-of-date, such assessments may be too late and unknown plant behaviour may already be impacting the power system by that time. AEMO also noted that in some overseas jurisdictions, a periodic model validation requirement is required.³⁶

The Panel agrees with AEMO’s views on the importance of model validation and considers that the guidance provided in section 3.2.2 of the draft and final Template appropriately encourages periodic validation, and highlights its value in ensuring ongoing plant compliance. This guidance aligns with the broader intent of the Template to provide guidance on how to demonstrate compliance with performance standards, without prescribing or mandating specific approaches that must be adhered to in all cases.

31 A model overlay is typically a graph or figure that ‘overlays’ the actual response of the plant with the response of a computer model, against the same power system event.

32 As discussed by Marissa McCauley, submission to the draft report, p. 2; AEMO, submission to the draft report, p. 3

33 See Tables A.3, A.4, A.5, C.12 and C.13 of the final Template.

34 NER, clause S5.5.3.

35 AEMO, submission to the draft report, pp. 2-3.

36 Ibid.

Therefore, the Panel has not included an explicit requirement for periodic validation in the final Template, as the Panel considers that such a requirement on all Registered Participants would be more appropriately placed in the NER. Additionally, introducing a new explicit periodic model validation requirement in the final Template would be likely to have material impacts on many existing Registered Participants, who would not have had sufficient opportunity to be consulted during this review.

For these reasons, the Panel considers that a rule change request to the AEMC would be a more appropriate avenue to consider introducing a periodic model validation requirement in the NER.

3.2.2 The Template reinforces NER obligations that require Registered Participants to provide updated model information to AEMO and NSPs

In its submission to the draft report, AEMO noted that sections 3.2.2 and 3.2.4 of the draft Template were silent on the impact of changes to the short circuit ratio (SCR) to any models that a Registered Participant may have.³⁷ In this context, AEMO considered that the Template should clarify how a Registered Participant should manage situations where, due to changing network conditions, the SCR experienced by the plant at the connection point differs to the SCR at the time of the plant's initial commissioning. Changes to SCR can significantly impact plant behaviour and the accuracy of plant models.

The draft Template's expectation that inaccurate models should be detected by compliance programs³⁸ serve to address the risk that changing network conditions impact the accuracy of plant models, when compared to actual plant behaviour. The draft Template also makes it clear that when Registered Participants become aware that models are inaccurate or incomplete, they must provide updated models and related information to AEMO and the relevant NSP, in accordance with their NER obligations.³⁹ Together, the Panel considers that this guidance accounts for the situation where SCR changes over time affect plant model accuracy.

The Panel considers that while more detailed guidance or expectations about technical considerations when amending models could be useful, it would be better placed in AEMO's Power System Model Guidelines (PSMG).⁴⁰ This is because:

- the PSMG already contains detailed model requirements for Registered Participants
- the scope of the Template is focused on providing general guidance on compliance programs, and so specific model guidance is likely to be too granular and may sit outside the scope of the Template
- AEMO is better suited than the Panel to determine what any additional model guidance in relation to network changes could look like.

For these reasons, the Panel has retained the guidance provided in sections 3.2.2 and 3.2.4 for the final Template.

To the extent that changes to SCR (or other changing network conditions) may impact plant behaviour, the Panel considers that this should be accounted for by the Registered Participant in their compliance program and any compliance regimes that they undertake. This is so that the Registered Participant is able to demonstrate reasonable assurance of ongoing compliance with their performance standards.⁴¹ This is supported by guidance provided in the compliance tables in

37 AEMO, submission to the draft report, p. 5.

38 See section 3.2.2 of the draft and final Template.

39 See section 3.2.4 of the draft and final Template.

40 The System Strength Impact Assessment Guidelines could also be amended to address any system-strength specific model concerns.

41 NER, rule 4.15(c)(4).

Tables A.3, A.4, A.5, C.12 and C.13 through the following wording in the 'basis for compliance assessment' column:

Consistency with models provided in accordance with clause S5.2.4/S5.3a.1 may be used to show compliance with performance standard.

3.3 Information provision and retention

The final Template includes new guidance on the information that Registered Participants should maintain as part of their compliance programs. This responds to initial stakeholder feedback to the issues paper on the need for improved guidance on the kinds of information that a compliance program should keep, so that parties can comply with their record-keeping obligations under the NER.⁴² No changes have been made to this section between the draft and final Template, as the Panel did not receive any further stakeholder feedback on this matter.

The Panel recognises that the previous Template was silent on the kinds of information that Registered Participants should maintain and provide, as part of their compliance program and broader compliance management framework. It only provided the following brief guidance to Registered Participants in relation to compliance information that must be retained:

A Generator is required to maintain compliance program records and other prescribed records for seven years, and if requested, deliver such records to the AER within five business days or other specified period.

To address this, in section 3.3 of the final Template, the Panel has included additional information and guidance on the records that Registered Participants should maintain as part of their compliance programs. The guidance in the final Template includes encouraging Registered Participants to:

- promptly record and document the outcomes of any periodic monitoring or tests it conducts as part of its compliance program
- retain data and information from any plant monitoring equipment in relation to specific power system events
- document the reasons why any tests could not be performed according to schedule
- keep a detailed record of changes that are made to a plant's compliance program, including the reasons why such changes were considered necessary
- document the reasons why a compliance program may deviate from the Template, while having regard to the compliance principles. See section 2.1.7 for discussion on this new compliance principle.

The final Template does not specify the exact format of these records. As each Registered Participant's compliance program and plant will be unique and will have different circumstances, the Panel considers that the exact format of relevant records is best left to the judgement of each Registered Participant.

The Panel considers that this additional information improves the Template's effectiveness by encouraging more prompt and detailed record-keeping behaviours, consistent with good electricity industry practice.

42 VeriConneX, submission to the issues paper, p. 3.

3.4 Guidance for dry stored or mothballed plant

The final Template largely retains the guidance in the previous Template on dry stored plant, but has updated relevant NER terminology to be consistent with the Template's scope.⁴³

In a submission to the draft Template, the Panel received a suggestion that the Template defines the 'minimum viable data set' required to prove compliance during periods of inactivity.⁴⁴

The Panel considers that the existing information on dry stored and mothballed plant sufficiently addresses this concern. The guidance notes that the NER requires all facilities, to which a performance standard applies (which may include dry stored plant), to develop and maintain compliance programs that are consistent with the Template.⁴⁵ Furthermore, this guidance encourages Registered Participants to consider whether a plant's existing compliance program is appropriate during any period of inactivity.

3.5 Guidance on non-compliances with performance standards

In section 3.6 of the final Template, describes the NER obligations for Registered Participants to notify AEMO and the relevant Network Service Provider when its plant is breaching, or is likely to breach, a performance standard. It also reminds Participants that the AER may conduct technical compliance audits to assess compliance with performance standards.

The previous Template was brief in its information on the obligations of Registered Participants in instances where a plant is, or is likely to be, non-compliant with a performance standard. The Panel considers that it is critical for all plant to comply with their performance standards to ensure the power system remains secure. It is equally important that Registered Participants are aware of their obligations when they become aware that their plant is or may be non-compliant.

The final Template retains the existing information on non-compliance outlined in section 1.3 of the previous Template. This information has now been moved to its own section in section 3.6 and enhanced with additional information on the obligations of Registered Participants when their plant is, or is likely to be, non-compliant. It now includes information on:

- AEMO's [Notice of Non-compliance with Registered Performance Standards](#) form, which a Registered Participant should complete immediately when it is aware its plant is being non-compliant in accordance with rule 4.15(f) of the NER
- Rules 4.15(i) and (j), which provide AEMO with the ability to determine a reasonable period for a Registered Participant to rectify a performance standards breach
- Rules 4.15(n)-(p), which provide a mechanism to involve the AER in the event that a Registered Participant and AEMO cannot agree on a rectification period
- Clause 5.7.3 of the NER that outlines further obligations on Generators and Integrated Resource Providers in the instance that a generator or integrated resource system is not in compliance with one or more of the technical requirements in Schedule 5.2.5 or the relevant connection agreement.
- The AER's ability to conduct technical compliance audits to ensure Registered Participants have developed and are maintaining robust and effective compliance programs.

⁴³ See section 3.4 of the final Template.

⁴⁴ Submission to the draft Template, Marissa McCauley, p. 1.

⁴⁵ NER, clause 4.15(c).

3.6 Market-based obligations in connection with performance standards

The Panel recognises that Registered Participants may have additional market-based NER obligations beyond the performance standards outlined in Schedules 5.2, 5.3 and 5.3a. The previous Template only provided guidance on performance standards, as per rule 4.15(ca) of the NER – it does not refer to other obligations a Registered Participant may have, despite some of these being equally critical to maintaining system security.

The Panel considers it prudent to recognise these additional obligations which relate to performance standards. However, given the requirements of the Template in rule 4.15(ca) of the NER, these other market obligations are not strictly within the scope of performance standards, and the Template cannot provide specific testing or monitoring methods for these obligations.⁴⁶

As such, sections 1.2.2, A.21, B.11 and C.16 of the final Template simply reference what some of these obligations may be, which may be considered alongside a Participant's performance standards, including:

- requirements relating to the delivery of frequency control ancillary services⁴⁷
- operational requirements for primary frequency response⁴⁸
- requirements for complying with reactive power (VAR) dispatch.⁴⁹

3.7 Interdependent and concurrent performance standards

In section 3.7 of the final Template, the Panel has provided guidance on the interdependency of different performance standards, including technical requirements that must be met concurrently. Many performance standards cannot be met in isolation, and in some cases, achieving one performance standard may rely on, influence or be affected by another performance standard.

The final Template does not specify testing or monitoring regimes that explicitly test whether multiple performance standards can be met simultaneously. However, the final Template's guidance clarifies that Registered Participants should consider how their testing and monitoring regimes can ensure that their relevant performance standards are met concurrently and at all required times.

3.8 The final Template provides guidance on the use of remote equipment that may be operated by another party

Section 3.5 of the final Template provides guidance to Registered Participants on instances where remote plant or equipment helps the Participant meet its performance standards, as may be agreed with AEMO and the relevant NSP. In these cases, where the operator of the remote equipment is another Registered Participant or the NSP, the 'primary' Registered Participant's compliance program is not required to assess the ongoing ability of the remote plant and equipment.

In its submission to the draft report, AEMO queried whether there is a potential gap in the compliance framework if the other party is not clearly responsible for compliance testing.⁵⁰ The Panel notes that the 'other party' operating remote equipment may be subject to the requirements of rule 4.15 and/or clause 5.7.4 of the NER if they are a Registered Participant. These

⁴⁶ See section 6.2 for more discussion on this point.

⁴⁷ For example, see section A.21.1 of the final Template.

⁴⁸ For example, see section A.21.3 of the final Template.

⁴⁹ For example, see section A.21.7 of the final Template.

⁵⁰ AEMO, submission to the draft Template, p. 5.

requirements require the 'other party' to institute and maintain compliance programs for their plant.⁵¹ As part of these compliance programs, relevant tests should be carried out by that 'other party'.

The Panel understands that commercial agreements in which the Registered Participant is neither the owner nor the operator of the plant are increasingly common. The previous Template did not specifically acknowledge the relationship between intermediaries and owners (or operators) in these circumstances.

In the draft Report, the Panel considered that it was not appropriate for the Template to provide guidance on how contractual arrangements between an applicant (that is, the 'primary' Registered Participant) and an intermediary should work, given that these arrangements are negotiated between the two parties.⁵²

In its submission to the draft Template, EnergyAustralia suggested that the Template acknowledge circumstances where a Generator has entered into a system security contract, as in these instances, 'a change to compliance methods or testing requirements may have implications for contractual obligations that go beyond the GPS framework.'⁵³

The Panel has retained its view that the Template cannot provide guidance on these contractual arrangements, noting that many such contracts sit outside of the NER. Therefore, the final Template does not provide guidance on the relationship between intermediaries and owner/operators. However, the Panel notes that clause 2.9.3(d)(5) of the NER provides that an intermediary and an applicant will be jointly and severally liable for the acts, omissions, statements, representations and notices of the intermediary in its capacity as a Registered Participant under the NER.

51 In the example provided in section 3.5 of the final Template, the Panel notes that the 'other party' is a Registered Participant (typically an NSP), who is therefore subject to the requirements of either (or both) rule 4.15 and clause 5.7.4 in respect of the remote equipment.

52 AEMC, Compliance Template Review 2026, Draft report, 2 April 2026, p. 18. The term 'applicant' is provided for under clause 2.9.3(a) of the NER, which provides that a person (the 'applicant') who is required to be registered under the NEL or under the Rules as a Generator, Integrated Resource Provider or a Network Service Provider may apply to AEMO or the AER, as applicable, for an exemption from that requirement to register.

53 EnergyAustralia, submission to the draft Template, p. 2.

4 The final Template provides more guidance about how to interpret and apply the tables

The Panel has restructured the Template and moved sections that provide guidance on how Registered Participants should apply the compliance tables into Chapter 4 of the final Template.

This chapter provides an overview of the additional guidance included in the final Template and the amendments made to the guidance in the previous Template. It does not cover guidance that remains unchanged between versions. This chapter outlines how the final Template provides guidance in relation to:

- applying the compliance tables (see section 4.1)
- continuous plant monitoring (see section 4.2)
- testing frequency (see section 4.3)
- hardware-in-the-loop testing (see section 4.4)
- event-dependent assessment and the Template definitions of ‘significant disturbance’, ‘major disturbance’ and ‘major event’ (see section 4.5).

4.1 The final Template explains how to apply the compliance tables

Sections 4.2, 4.3, 4.4, and 4.9 in the final Template outline how Registered Participants should apply the compliance tables and the methods contained within. No further changes have been made to this guidance in the final Template.

A number of stakeholder submissions to the draft Template sought further clarity on how to use the compliance tables and the Template’s role within the compliance framework. Specifically, the Panel received feedback that the Template should:

- emphasise its role as guidance rather than prescribing mandatory approaches⁵⁴
- provide greater clarity on how Registered Participants should select and apply compliance methods where multiple methods are suggested⁵⁵
- clarify that the compliance methods are available to help participants demonstrate compliance with their performance standards, not create new obligations.⁵⁶

The Panel acknowledges this feedback but has not made substantial amendments to the final Template. The Panel considers that these matters are adequately addressed in the Template, as set out below:

- sections 1.1 and 4.2 of the Template explain that it does not provide an exhaustive list of tests and methodologies that can demonstrate compliance, and Registered Participants may adopt alternative approaches where consistent with the compliance principles. Section 4.2 also notes that the tables are not designed to take the place of alternative legal or technical advice.
- section 4.3 explains that Registered Participants should select the method or methods most appropriate to their circumstances, having regard to factors such as the compliance principles, plant technology, connection arrangements and the risks and costs of different testing methods. However, the final Template includes additional guidance in section 4.3 stating that supplementary methods provided in the compliance tables should be used in conjunction with

⁵⁴ Alinta Energy, submission to the draft Template, p. 2.

⁵⁵ APA, submission to the draft Template, p. 3.

⁵⁶ EnergyAustralia, submission to the draft Template, p. 2.

other suggested methods. Additionally, the Panel has removed two preambles to Appendices B and C of the draft Template that stated ‘only one method is required to be used’.⁵⁷ This is because the Panel cannot provide a general guarantee that using only one of the suggested methods will provide reasonable assurance of ongoing compliance with a plant’s performance standards, and a Registered Participant must use its judgement to determine whether one (or more) methods is sufficient.

- while sections 4.2 and 4.3 explain that the suggested compliance methods are not prescriptive nor exhaustive, the overall guidance provided by the Template does oblige Registered Participants to ensure that their compliance program(s) are consistent with the Template.⁵⁸ Therefore, while the Template cannot and does not create new performance standard obligations, it provides a set of reasonable expectations and examples of what suitable testing and monitoring regimes look like, to enable Registered Participants to demonstrate compliance with their existing performance standard obligations.

Accordingly, the Panel considers that the final Template provides sufficient guidance on its role, the application of suggested compliance methods, and how Registered Participants may use those methods, or other suitable methods, to demonstrate compliance with their performance standards.

4.2 The final Template sets the expectation that continuous plant monitoring is generally preferable, but not mandatory

The final Template sets out the Panel’s view that CPM is generally preferable, but not mandatory for all monitoring and compliance regimes. This is reflected in the proposed compliance principle 2 described in Chapter 2 and the guidance in section 4.6 of the final Template. Only minor changes have been made to this Template section between the draft and final Template.

CPM refers to any system that allows plant owners and operators to view, record and analyse various technical parameters during regular plant operation. Effective use of continuous plant monitoring to demonstrate compliance requires active and routine monitoring of recorded plant data, and should not be just ‘mere logging.’ This expectation is set out in the Template’s definition of ‘monitoring’ in section 4.11.⁵⁹

The final Template provides flexibility for Registered Participants to assess the appropriateness of continuous plant monitoring, taking into account:

- the costs of instituting new continuous monitoring equipment
- the practicality of implementation
- the appropriateness of existing alternative monitoring and testing arrangements
- the power system security risk of a potential non-compliance against a specific performance standard.
- any circumstances where implementing continuous monitoring may not be practicable.

The updated guidance on continuous plant monitoring (CPM) in the final Template has been shaped by stakeholder feedback in response to both the issues paper and draft Template. There was broad stakeholder support for the updated guidance in the draft Template. Stakeholders recognised the benefits of continuous plant monitoring as a complement to periodic testing, and

⁵⁷ See pages 47 and 54 of the draft Template.

⁵⁸ NER, rule 4.15(c)(1).

⁵⁹ See page 18 of the final Template.

supported the practical approach adopted by the Panel.⁶⁰ At the same time, stakeholders provided suggestions for how this guidance could be strengthened.

In its submission to the draft Template, EnergyAustralia noted that there are practical concerns with requiring a plant that may be approaching the end of its commercial life to retrofit CPM infrastructure. It suggested that compliance principle 2 should explicitly recognise these circumstances.⁶¹

As outlined in section 2.1.2, we consider that compliance principle 2 already accounts for where continuous plant monitoring may not be practicable. For the avoidance of doubt, in section 4.6 of the Template, the Panel has added 'plant approaching the end of its commercial life' as an example where continuous plant monitoring may not be practicable.

The Panel also received feedback on the timing and necessity of actively assessing the data collected during CPM. VeriConneX emphasised the importance of active assessment and suggested that the appendices embed the same expectation as the definition of 'monitoring' on page 18 of the final Template, where CPM is not 'mere logging'. Alinta Energy further requested that the Panel clarify its expectations regarding continuous monitoring. It noted that while data compilation can be continuous, often accurate identification and analysis cannot be immediate.

To address this feedback, the final Template revises the column header in the compliance tables from 'suggested testing frequency' in the draft Template to 'suggested assessment frequency' in Appendices A, B and C. In rows where continuous monitoring is listed as a testing method for a technical standard, it is now accompanied by a clear timeframe or trigger for reviewing the data.⁶² Where more frequent assessment of the data is aligned with good electricity industry practice, the suggested assessment frequency is 'ongoing'. The Panel considers that these edits clarify the expectations on Registered Participants.

4.3 The frequency of testing should be proportionate to the risk of non-compliance

The final Template outlines the suggested testing frequency for each performance standard. This is supplemented by additional guidance in chapter 4.7 of the final Template and compliance principle 3.

No further changes have been made to this section between the draft and final Template, given the broad stakeholder support for the draft Template's guidance.⁶³ The final Template maintains a risk-based approach to testing frequency. This means that the frequency of testing should be guided by the level of risk associated with non-compliance with the relevant performance standard, as reflected by compliance principles 1 and 3. This risk-based approach has primarily driven the testing intervals detailed in the 'suggested assessment frequency' column in Appendices A, B, and C of the draft Template.

As per the draft Template and described in the following sub-sections, the final Template:

- expands on the list of additional factors that may impact testing frequency
- provides guidance on how continuous plant monitoring impacts testing frequency

60 Submissions to the draft Template: AEMO, p. 2; APA, p. 3; Marissa McCauley, p. 1; VeriConneX, p. 1.

61 EnergyAustralia, submission to the draft Template, p. 2.

62 For example, every three or five years, or after a plant change, or after a significant/major event/disturbance.

63 Submissions to the draft Template, APA, p. 3; VeriConneX, p. 1.

- provides guidance on how compliance programs consider operational factors in the development of testing programs.

4.3.1 Guidance on factors that may impact testing or assessment frequency

In the Template's compliance tables, each suggested compliance method has a suggested assessment frequency for how often tests or monitoring assessments should take place. However, as the Template cannot prescribe all suitable assessment frequencies for all different types of plant, the Template explains that a Registered Participant should consider a range of factors when determining the actual assessment frequencies that will be implemented in the plant's compliance program. See section 4.7 of the final Template for this guidance.

Compared to the previous Template, the final Template expands on the list of additional factors that may impact testing frequency to include:

- the Registered Participant's experience with the particular plant technology
- the manufacturer's advice with respect to a particular model
- an assessment of the frequency required to provide reasonable assurance of compliance
- the materiality of non-compliance with a performance standard, consistent with compliance principles 1 and 3
- the potential for the plant's performance to drift over time
- the impact of any plant changes, consistent with compliance principle 5
- the cost of testing
- any risks associated with conducting a test.

4.3.2 Guidance on how continuous plant monitoring impacts testing frequency

The final Template also retains the draft Template's guidance on how continuous monitoring impacts testing frequency,⁶⁴ as well as the alignment of testing with operational factors, such as planned outages or scheduled maintenance.⁶⁵

Regarding the impact of CPM on testing frequency, the final Template explains how CPM can complement a Registered Participant's plant testing regime. When CPM is in place, testing can focus on edge cases and plant performance under more severe power system conditions that may not occur during normal operation. Conversely, where CPM is not in place, Registered Participants should exercise prudence and act in accordance with good electricity industry practice to demonstrate ongoing compliance. In these cases, more frequent testing may be required.

4.3.3 Consideration of operational factors in the development of testing programs.

Regarding the alignment of testing with operational factors, the final Template balances the need for Registered Participants to demonstrate ongoing compliance with the flexibility needed to reduce the administrative and operational burden of testing. While the Panel recognises the need for flexibility to allow Registered Participants to consider operational decisions, it affirms that a Registered Participant should not delay a test if the risk of non-compliance with a performance standard exceeds the foreseen benefits of delaying it.

⁶⁴ See section 4.7.1 of the final Template.

⁶⁵ See section 4.7.2 of the final Template.

Consistent with proposed compliance principles 1 and 3, a Registered Participant should exercise their judgement, in line with good electricity industry practice, to determine whether it would be appropriate to deviate from the recommended testing frequency in the Template to better align with operational factors.

4.4 Hardware-in-the-loop testing may complement other more fulsome testing methods

The final Template includes guidance in section 4.9 on the approach and considerations for hardware-in-the-loop (HIL) testing as part of a compliance program. This inclusion responds to stakeholder submissions to the issues paper, which requested that the Template provide guidance on the use of HIL testing.⁶⁶ The Panel did not receive any further feedback on HIL testing in response to the draft Template.

HIL testing is a simulation technique that integrates physical hardware or equipment under test with a real-time simulated environment. In an HIL setup, components such as inverter control hardware may be connected to a virtual representation of the power system, enabling the exchange of control signals and the observation of the hardware's responses under a range of simulated operating conditions. This testing method can provide a higher level of fidelity than simulation using software models alone, as it captures the actual behaviour and dynamic response of physical control systems that may otherwise be approximated in purely model-based studies.

While HIL testing can significantly improve confidence in control system behaviour, the Panel considers that it does not replicate all aspects of full-scale plant operation. Therefore, HIL testing should only be used to complement, rather than replace, end-to-end testing and monitoring of as-built plant. The Panel has included guidance to this effect in section 4.9 of the final Template.

4.5 The Template provides guidance on event-dependent assessment

In section 4.8 of the final Template, the Panel has provided further guidance on event-dependent assessment, where demonstrating compliance against a performance standard may depend upon a plant's response against specific types of power system events. Section 4.8 of the final Template has been added between the draft and final Template in response to stakeholder feedback to the draft report.

Additionally, in section 4.10 of the final Template, the Panel has added clause-specific examples for what may constitute a 'significant disturbance', 'major disturbance' and 'major event'. These are terms that are commonly used in the compliance tables as suggested triggers for Registered Participants to take certain compliance actions. These examples clarify the types of event signals or triggers for plant monitoring regimes. Only one addition has been made to these examples between the draft and final Template.

Table 4.1 summarises the Template definitions of the three event-related terms.

66 Submissions to the issues paper: SMA, p. 3; Tesla, p. 1.

Table 4.1: Summary of disturbance and event defined terms in the Template

Defined term	Summary of meaning
Significant disturbance	A disturbance where a plant trip is expected, to test whether a plant trip complied with its performance standards.
Major disturbance	A disturbance intended to test a plant's <i>continuous uninterrupted operation</i> , as required by its performance standards
Major event	A power system event intended to test a plant's response to faults or other disturbances , as required by its performance standards.

In addition, the compliance tables include cross-references to the examples given in section 4.10 of the Template, which aim to clarify the types of events that should trigger investigations of plant trips or power system events.⁶⁷

The Panel considers that the new guidance and examples should improve the application of the Template's compliance methods, improving event-based investigations and assessments, and the overall effectiveness of Registered Participants' compliance programs.

4.5.1 The final Template includes guidance for when a plant may not experience a relevant event during a certain time period

In submissions to the draft Template, stakeholders considered that the Template should provide additional guidance on how Registered Participants should document compliance during periods where no qualifying events have occurred.⁶⁸

To address this, the final Template adds guidance that Registered Participants should seek to select and use the most relevant voltage or frequency disturbances over a relevant time period, which may nonetheless test a plant's ability to meet its performance standards. By 'relevant disturbance,' the Panel means a voltage or frequency disturbance that may not necessarily qualify as a 'major event'⁶⁹ but can nonetheless provide the plant owner with some information about the plant's behaviour and compliance with its performance standards. This guidance has been added in section 4.8 of the final Template.

EnergyAustralia also considered that the Template should explicitly acknowledge that event-dependent methods are subject to factors outside the Registered Participant's control.⁷⁰ The Panel agrees with EnergyAustralia's view that the events are outside the Registered Participant's control, and notes that the Template does not suggest that the absence of a qualifying event would be evidence of potential non-compliance. In line with good electricity industry practice, the Template's guidance in section 4.8 explains that Registered Participants should document when there have been no relevant events in their compliance program.

⁶⁷ For example, see Table A.3, method 1; Table A.4, method 1; and Table A.5, method 1 and 2.

⁶⁸ Submissions to the draft Template, APA, p. 4; EnergyAustralia, p. 3.

⁶⁹ Or 'significant disturbance' or 'major disturbance', as defined in section 4.11 of the final Template.

⁷⁰ EnergyAustralia, submission to the draft report, p. 3.

4.5.2 The final Template does not specify a minimum timeframe for an assessment post-event

The compliance tables typically specify a minimum period during which events should be reviewed to test a range of performance standards. However, the tables do not specify a minimum timeframe for a post-event assessment. For example, method 1 in Table A.5 recommends that Registered Participants analyse 'a selection of events reviewed no less than once every three years,' but does not prescribe when the assessment should take place, relative to the timing of the events.

In its submission to the draft Template, VeriConneX suggested that the Panel consider establishing a clear timeframe for completing assessments following each event type.⁷¹

While the Panel considers timely assessments following power system events to be consistent with good electricity industry practice, it does not consider it appropriate to prescribe fixed timeframes through the Template. The importance of promptly investigating an event depends on its materiality and potential impact on power system security. This approach is consistent with compliance principle 1, which suggests that Registered Participants should prioritise more material events and investigate them as soon as possible, compared with less material issues, for which a detailed investigation may not be as urgent.

The Panel further notes that clause 4.8.15(g) of the NER requires Registered Participants to provide information to AEMO within 20 business days (unless AEMO agrees to a longer period of time) relating to the performance of equipment during and following reviewable operating incidents. These events are generally the most consequential for power system security, where Participants are already subject to specific information provision requirements.⁷²

⁷¹ VeriConneX, submission to the draft Template, p. 2.

⁷² See NER clause 4.8.15(a) for the definition of 'reviewable operating incidents'.

5 The Template includes new and updated compliance tables

The Template's compliance tables provide Registered Participants with important guidance on selecting and implementing appropriate regimes⁷³ to demonstrate ongoing compliance with their performance standards.⁷⁴ However, as explained in section 4.2 of the Template, the compliance tables are not intended to be an exhaustive or comprehensive list of all applicable regimes that a Registered Participant may select for their plant. Nevertheless, the suggested regimes, assessment frequencies and methodologies in the tables for each access standard clause are important in guiding the development, maintenance and creation of effective compliance programs.

While Table 1 of the previous Template provided plant owners with useful information to design, institute and maintain their compliance program(s), it needed to be expanded to cover integrated resource systems and synchronous condenser systems so that the Template complies with the requirements of rule 4.15(ca). It also needed to account for changes to the technical requirements made since the Panel's last review of the Template in 2019. Additionally, new compliance tables needed to be created to cover the performance standards for schedule 5.3 plant and schedule 5.3a plant. See Chapters 3 and 4 of the Panel's issues paper for more information on these matters.

Throughout this review, the Panel has taken the opportunity to improve the clarity, application and ease-of-use of the compliance tables in the Template wherever possible, building on stakeholder feedback to the issues paper and draft report. Most notably, the Panel has reproduced the Template's compliance tables in Microsoft Excel spreadsheet format, which is expected to improve its usability and make it easier for Registered Participants to create or update their compliance programs.

5.1 The Panel has published the compliance tables in a spreadsheet format to aid usability

Recognising that some Registered Participants may find it easier to navigate and use a Template in an editable format, the Panel has created an editable, downloadable spreadsheet version of Appendices A, B and C of the final Template in Excel format (.xls) to accompany the standard pdf document format.⁷⁵

The published Excel file contains separate sheets for each compliance table, along with an index listing all applicable compliance methods for each plant type. For the purposes of the Excel version of the compliance tables, each suggested method has been assigned a unique number that corresponds to the relevant section in the final report.

For example, Table A.1 of the final Template contains four suggested methods for monitoring and testing reactive power capability, and are assigned the method numbers A.1.1, A.1.2, A.1.3 and A.1.4, accordingly. Table A.1 also contains three supplementary methods, which have been assigned the method numbers A.1.S1, A.1.S2 and A.1.S3, where 'S' stands for 'supplementary'. This numbering method has been adopted for each compliance table in the final Template.

⁷³ The terms 'compliance methods' and 'compliance regimes' are used interchangeably throughout this report and the final Template.

⁷⁴ See NER, rule 4.15(a), (c) and (ca).

⁷⁵ As supported by APA in its submission to the draft report, p. 5.

The index allows Registered Participants to refer to only those methods that are applicable for their plant, as some methods are only relevant for asynchronous plant or inverter based resources, while others are only relevant for synchronous machines.

In each sheet for each compliance table, the type of compliance method and its applicability are listed in a separate column for each method. This differs from the compliance tables in the final Template, where the method type and its applicability are listed as a sub-heading within each table. This difference in approach was adopted to best accommodate the Excel file format and improve readability and usability.

For future reviews of the Template, the Panel welcomes any stakeholder feedback on improving the formatting of the compliance table spreadsheet.

5.2 The tables have been restructured to improve their clarity and effectiveness

The Panel has made three main structural changes when revising the compliance tables for the final Template:

1. Creating a separate table for each access standard
2. Providing any contextual or additional information relating to each access standard, as a preamble to each table
3. Clarifying the type of compliance method and its applicability to certain plant types

Each of these changes is discussed in turn in section 5.2.1, section 5.2.2 and section 5.2.3 below.

5.2.1 The final Template creates separate tables for each access standard

To improve the Template's usability and readability, the Panel's final Template creates a new table for each access standard. Each access standard corresponds to a specific clause in Schedule 5 of the NER. For example, Table A.1 of the final Template corresponds to clause S5.2.5.1 of the NER, providing suggested compliance methods for reactive power capability; Table A.2 corresponds to clause S5.2.5.2 of the NER, providing suggested methods for quality of electricity generated; and so on.

The Panel has also adopted this approach for the new compliance tables for schedule 5.3 plant and schedule 5.3a plant. These new compliance tables are presented in Appendices B and C, respectively.

The Panel considers that separating compliance tables by access standard improves the Template's usefulness and ease of use for Registered Participants when they create their own compliance programs.

5.2.2 The final Template provides contextual or additional information for each access standard

Instead of providing a separate 'Notes' column in the table, contextual information that relates to a specific technical requirement has been provided as a preamble to each table, underneath the heading of the name of each technical requirement. For example, in section A.13 of the final Template (corresponding to clause S5.2.5.13), the following text has been included before Table A.13:⁷⁶

76 See page 38 of the Template.

Testing and monitoring regimes should consider control modes and conditions where voltage control may operate differently, including:

- Low and high solar irradiance conditions for solar farms
- Reactive power on demand mode for solar farms
- Low and high State of Charge (SoC) conditions for BESS

Where the Panel has considered that there is additional method-specific information that may be helpful to Registered Participants, this information has been provided in the Table itself. For example, in Table A.13, additional information relating to the use of plant models has been provided in the 'Basis for compliance assessment' column:

Overlaying test data with model responses, using verified models, shows that performance is consistent with past performance, as well as showing the models provided in accordance with clause S5.2.4 are accurate.

Where performing model overlays is not practical, this should be substituted with a comparison with past performance. If suitable models are not available, the Registered Participant should consider whether a model update is required under clause S5.2.4(d)(2).

RMS type models are generally suitable for this clause.

This information assists Registered Participants in developing or updating their compliance programs, prompting them to take into account any specific requirements under their performance standards and to consider related factors applicable to their particular situation.

5.2.3 The final template clarifies the type of method and its applicability to certain plant types

Each table in the final Template has separate sections corresponding to different suggested compliance methods, with the method type and its applicability to specific plant types detailed in parentheses. For example, in Table A.5:

- Method 1 is described as 'continuous high-speed monitoring for synchronous plant'
- Method 2 is described as 'continuous high-speed monitoring for asynchronous plant'
- Method 3 is described as an 'investigation of events where continuous high-speed monitoring is not practical'.

In other sections, 'supplementary methods' have also been provided where the Panel considers that certain compliance methods could be used in conjunction with other methods, where it may be applicable for specific plant.

The Panel considers that this approach would make it easier for Registered Participants to select appropriate compliance method (or regimes) for their own plant, without having to navigate one single table and interpret whether a particular row may be applicable for their plant type.

5.3 The final Template introduces new continuous plant monitoring regimes

To ensure that the Template appropriately reflects modern compliance practices and cost changes since the Panel's last review, the Panel has added several suggested compliance methods that leverage continuous plant monitoring technologies.

A list of the methods in the final Template that utilise continuous plant monitoring is presented in Table 5.1.

Table 5.1: Suggested compliance methods which utilise continuous plant monitoring

Access standard	Method number	Notes
Reactive power capability (S5.2.5.1)	Method 1 (A.1.1)	Supplemented with active testing every 5 years to test the plant's full range of reactive power capability
Quality of electricity generated (S5.2.5.2)	Method 1 (A.2.1)	Utilising alarm-based monitoring to flag power quality exceedances.
Response to frequency disturbances (S5.2.5.3)	Method 1 & Method 3 (A.3.1 & A.3.3)	Method 3 is only applicable to small asynchronous units with distributed digital controls. Investigation of significant disturbances and major disturbances.
Response to voltage disturbances (S5.2.5.4)	Method 1 (A.4.1)	Investigation of significant disturbances and major disturbances.
Response to disturbances following contingency events / Disturbance ride-through capability (S5.2.5.5/S5.2.5.5A)	Method 1 & Method 2 (A.5.1 & A.5.2)	Method 1 is applicable to synchronous plant; method 2 is applicable to asynchronous plant. Investigation of significant disturbances and major events.
Quality of electricity generated and continuous uninterrupted operation / Response to abnormal voltage quality (S5.2.5.6)	Method 1 (A.6.1)	Investigation of major events.
Partial load rejection (S5.2.5.7)	Method 1 (A.7.1)	Investigation of major events.
Protection from power system disturbances (S5.2.5.8)	Method 1 (A.8.1)	Investigation of major events.
Frequency control / Frequency responsiveness and/or Governor stability and governor system (S5.2.5.11)	Method 1 & Method 3 (A.11.1 & A.11.3)	Investigation of major disturbances and major events.
Voltage and reactive power control / excitation control system (S5.2.5.13)	Method 1 & Method 2 (A.13.1 & A.13.2)	Method 1 is applicable to synchronous plant; method 2 is applicable to asynchronous plant. Supplemented with active testing every 5 years.
Active power control (S5.2.5.14)	Method 1 (A.14.1)	
Voltage fluctuations (S5.3.7)	Method 1 (B.6.1)	Continuous monitoring using power quality meters
Harmonic voltage distortion	Method 1 (B.6.1)	Continuous monitoring using power

Access standard	Method number	Notes
(S5.3.8)		quality meters
Reactive power capability (S5.3a.8)	Method 1 & Method 2 (C.7.1 & C.7.2)	
Balancing of load currents (S5.3a.9)	Method 1 (C.8.1)	
Voltage fluctuations (S5.3a.10)	Method 1 (C.9.1)	Continuous monitoring using power quality meters
Harmonic voltage distortion (S5.3a.11)	Method 1 (C.10.1)	Continuous monitoring using power quality meters
Response to disturbances in the power system (S5.3a.13)	Entire method (C.12)	Investigation of significant disturbances and major disturbances using high-speed monitoring
Disturbance ride through and response capability/Protection of market network services from power system disturbances (S5.3a.14)	Entire method (C.13)	Investigation of significant disturbances and major events using high-speed monitoring
Voltage and reactive power control (S5.3a.15)	Method 1 & Method 2 (C.14.1 & C.14.2)	Investigation of major events using high-speed monitoring
Active power control (S5.3a.16)	Method 1 (C.15.1)	

Note: Clause references above correspond to version 250 of the NER.

On the use of continuous plant monitoring methods, as explained in section 4.2, while the Panel considers that the use of continuous plant monitoring regimes is generally preferable, especially for new plant, it does not expect all incumbent Registered Participants to utilise continuous plant monitoring regimes. Compliance principles 1 and 2 and the associated guidance in sections 4.6 and 4.7 of the final Template explain the factors that Registered Participants should consider when selecting an appropriate compliance method for their plant, and determining whether continuous plant monitoring methods are suitable.

The Panel considers that the inclusion of new continuous plant monitoring methods in the final Template contributes to power system safety, security and reliability by encouraging Registered Participants to consider these methods for their compliance programs. It also supports innovation and flexibility by recognising that continuous plant monitoring methods can provide superior compliance outcomes and can be very cost-effective for some plant, while also recognising that the cost of such methods may be unreasonably expensive for some existing plant.

The final Template reflects modern compliance practices and monitoring methods, encouraging more effective compliance programs for all relevant plant, thereby contributing to the NEO.

5.4 The final Template accounts for changes made by the Access Standards Package 1 Rule

As highlighted by Table 4.1 of the Panel's issues paper, the *Improving the NEM access standards - Package 1* (Access Standards Package 1) rule change has amended several technical requirements in schedules 5.2 of the NER. As the Template must cover all performance standards, the draft Template has accounted for the changes made by the Access Standards Package 1 rule by:

- in the preamble to Table A.1, explaining that 'testing should consider voltage range around the midpoint voltage and temperature derating, where relevant under the performance standard'.⁷⁷
- in Table A.5, including a list of specific requirements that may be applicable to a Participant's performance standard in the 'basis for compliance assessment' column.⁷⁸
- in Table A.10, including a method for plant with instability detection systems.⁷⁹
- in Table A.13, including testing of secondary control modes to compliance methods 1 and 2.⁸⁰

Other minor changes were also made to accommodate technical requirements stemming from other rule changes since the Panel's last review in 2019. For more information on these changes, see Appendix A of the Panel's draft report.

5.5 The final Template creates new tables for schedule 5.3 plant and schedule 5.3a plant

As discussed in section 1.2, the Template applies to all Registered Participants' plant that have performance standards determined in accordance with schedules 5.2, 5.3 and 5.3a of the NER. The Access Standards Package 1 rule change reflected this change by amending the formal name of the Template to exclude the word 'generator'.

The final Template includes compliance tables for schedule 5.3 plant (registered loads and distribution networks) and schedule 5.3a plant (HVDC links) in Appendices B and C. The inclusion of these tables ensures that Registered Participants have sufficient guidance to institute and maintain effective compliance programs for their schedule 5.3 plant and schedule 5.3a plant, which have not traditionally been a focus of the Template.

To create the new compliance tables for loads and HVDC links, the Panel used the relevant compliance methods for schedule 5.2 plant as a basis, but has also incorporated technology-specific guidance for HVDC links, recognising that both voltage source converter-based HVDC links and line-commutated converter (LCC) HVDC links are present in the NEM.⁸¹ For example, Table C.7 contains a suggested method suitable for voltage source converter-based HVDC links, and another method suitable for LCC HVDC links.

In its submission to the draft report, APA provided some comments and suggestions on the HVDC compliance methods provided in the draft Template. The Panel's consideration and response to these comments are discussed in more detail in appendix A.

77 The concept of a 'mid-point voltage' for reactive power capability was introduced by the Access Standards Package 1 rule - see section 4.1.1 of the [final determination](#) and clause S5.2.5.1(a0)(3).

78 The Access Standards Package 1 rule amended requirements for active power recovery after a fault, as well as rise time, settling time, commencement time for reactive current injection - see section 4.6 of the [final determination](#).

79 The Access Standards Package 1 rule change introduced new instability monitoring and detection requirements for new plant - see section 4.9 of the [final determination](#).

80 The Access Standards Package 1 rule introduced a requirement for both a primary and a secondary control mode for controlling voltage, reactive power or power factor - see section 4.10.4 of the [final determination](#) and clause S5.2.5.13(b)(2A).

81 Older HVDC links, such as Basslink, use LCC technology, while newer HVDC links, such as Murraylink, use voltage source converter-based technologies.

Marissa McCauley noted that the Template should ‘address the interaction between the [HVDC] link and the AC network at both ends’, and that ‘compliance should be assessed on a ‘system-impact’ basis rather than just terminal performance’. The Panel notes that the merits of the specific technical requirements applicable to HVDC links, as listed in schedule 5.3a, were not part of the scope of this review.⁸² Nonetheless, the Panel’s suggested compliance methods in the final Template should guide HVDC plant owners and operators to ensure ongoing compliance with their specific performance standards, which naturally relate to the HVDC’s interaction with the broader network.

The introduction of new compliance tables for schedule 5.3 plant and schedule 5.3a plant promotes power system security by facilitating the creation and maintenance of compliance programs for loads, distribution networks and HVDC links, all of which can have an adverse or material effect on security.

5.5.1 Application of the Template for non-registered persons who operate loads

At the time of publication, the final Template does not formally apply to persons who own or operate schedule 5.3 plant (loads) that are not Registered Participants.⁸³ Despite this, the Panel considers that the final Template provides useful guidance and information for these parties in developing any compliance programs for their large loads.⁸⁴

On 12 March 2026, the Commission published a draft determination and draft rule for the *Improving the NEM Access Standards - Package 2* (Access Standard Package 2) rule change, which proposed that connection agreements with non-registered Schedule 5 Participants must provide reasonable assurance of ongoing compliance with their performance standards.⁸⁵ This proposal would require the owners and operators of large loads (who may not be Registered Participants) to ensure ongoing compliance with their performance standards, without subjecting those parties to the requirements of rule 4.15 of the NER and the Template.

Regardless of whether the Commission’s proposal is progressed or modified in the final Access Standard Package 2 Rule, the Panel recommends that all owners and operators of schedule 5.3 plant should use and refer to the Template when instituting, maintaining or updating a compliance program, regardless of their registration status.⁸⁶ A failure to do so may not be consistent with *good electricity industry practice* and may increase the risk of non-compliance with their performance standards, which may be subject to severe contractual or financial penalties.

5.5.2 Application of the Template to existing HVDC links

The Panel notes that the Template must cover **all performance standards** and must therefore reflect any newly added technical requirements that may not yet apply to any existing plant in the NEM.⁸⁷ The new tables in Appendix C of the draft Template cover all possible performance standards that may apply to HVDC links, ranging from version 1 to version 251 of the NER (including the newly added technical requirements from the Access Standards Package 1 rule, such as S5.3a.15 and S5.3a.16).

82 For more information on the recent changes to the HVDC access standards, see chapter 5 of the [final determination](#) of the *Improving the NEM access standards - Package 1* Rule.

83 This includes the owners or operators of large loads (such as data centres), who may not be (or may not intend to be) a Registered Participant. At the time of publication, rule 4.15 of the NER only applies to Registered Participants.

84 Additionally, these parties are very likely to have performance and compliance requirements as part of their connection agreement with the relevant NSP.

85 AEMC, [Improving the NEM access standards – Package 2](#), draft determination, pp. 44-45; draft rule, clause 5.3.7(b)(2).

86 This includes following and being consistent with the compliance principles, listed in chapter 2 of the final Template.

87 NER, rule 4.15(ca).

The inclusion of new tables for new access standards does not imply that new performance standards apply to existing HVDC links. When determining which compliance methods are applicable and suitable for their plant, Registered Participants should refer to their existing performance standards, as provided to AEMO under clause 4.14(n) of the NER. For the avoidance of doubt, a revised Template would not seek, nor would it have the effect of, introducing new performance standard obligations on existing plant.

6 Final recommendations for rule change requests to improve the compliance framework

Throughout this review, the Panel has considered and consulted on the effectiveness and efficiency of the NER compliance framework. It intends to submit a rule change request that would provide greater flexibility in the timing of future Template reviews to better align with any changes to the NER access standards. This rule change request seeks to resolve the issue where the Panel is required to review the Template in accordance with the NER's five-year requirement, despite anticipated or potential amendments to the NER's access standards as a result of any final rule made by the AEMC. In these instances, it would be more efficient to defer the commencement of the Panel's review. Stakeholder responses to the draft report broadly supported this proposal.

The Panel also investigated proposing changes to the NER to expand the scope of the Template to cover all performance standards and any related NER or market-based obligations, to the extent they relate to the performance standards. Following stakeholder feedback, the Panel will not progress this proposal as it considers that the scope stipulated in the NER remains appropriate in supporting system security.

The Panel also sought recommendations for other potential rule changes to improve the compliance framework, but did not receive any further suggestions.

This chapter provides an overview of these potential rule change proposals, along with related stakeholder feedback that informed the Panel's final recommendations.

6.1 The Panel recommends a rule change request to better align future Template reviews with changes to the NER access standards

The Panel considers that there would be benefits to aligning the timing of the Panel's review of the Template with AEMO's review of the access standards and any subsequent final rule made by the AEMC. This alignment could be achieved by amending the NER to:

- enable the AEMC to issue a standing Terms of Reference that requires the Panel to commence a review as soon as practicable after the completion of a Rule that amends the NER access standards, or any other trigger determined by the AEMC
- retain the minimum five-year review frequency in the NER, but only when there is no AEMC-issued standing Terms of Reference to trigger a review.

This recommended approach differs from the draft report, where the Panel considered that greater flexibility could be achieved by simply removing the five-yearly requirement for the Panel to undertake a review of the Template. Under our final recommendation, a Template review could be triggered by new or revised access standards in the NER, or the introduction or proliferation of new technologies that may warrant a Template review, if these triggers were stipulated in a AEMC's standing terms of reference. This would give the Panel greater flexibility to account for any changes to the technical standards in the NER following any final rule made by the AEMC, without being constrained by a rigid five-year period.

6.1.1 The Panel will submit a rule change request enabling more flexible timing in the NER

Given the broad support for the proposal's rationale, the Panel intends to submit a rule change request to the AEMC seeking an amendment to clauses 8.8.3(ba) and (bb) of the NER. Although subject to change, the Panel considers that the proposed Rule would take the following form:

8.8.3(ba) *The Reliability Panel must conduct a review of the template for compliance programs in accordance with this clause 8.8.3:*

1. *at such times or intervals as may be requested by the AEMC in a standing terms of reference pursuant to subparagraph (c1)(1); or*
2. *if the AEMC has not requested a review in a standing terms of reference pursuant to subparagraph (c1)(1), at least every five years from the date the template for compliance programs was last determined.*

(bb) *Following a review under paragraph (ba), the Reliability Panel may amend the template for compliance programs in accordance with its report to the AEMC submitted under clause 8.8.3(j).*

This proposed rule drafting is designed to strike the right balance between:

- enabling more flexible timing to better align the Panel's Template reviews with changes to the NER technical standards, allowing the AEMC to specify a review date beyond the current five-year requirement if it is appropriate to defer a review until the outcome of a rule change is known
- providing industry participants with sufficient certainty for when the next Template review may commence by retaining the minimum five-year review requirement in instances where a review is not triggered by the standing terms of reference.

Relative to the current NER arrangements, the Panel considers that the benefits of this rule change request are that it would:

- streamline the review process and enable future Panel reviews to be fully informed by any changes made to the NER technical standards
- ensures that the Template remains reflective of the access standards in the NER for longer periods of time, thereby providing more effective guidance
- avoid the need for the Panel to seek deferral of a review, in light of any AEMC rule change processes that are likely to affect NER access standards (see section 6.1.2); without such a deferral, Registered Participants may be required to amend their compliance programs multiple times within a short period of time after multiple reviews if the AEMC considers it appropriate to update the Template in line with any changes to the NER access standards.⁸⁸
- maintains a minimum review frequency in circumstances where the AEMC has not issued a standing terms of reference (or has revoked an existing standing terms of reference), providing industry with certainty that the next review will commence at most five years from the last revision of the Template.

As this proposal has been consulted on through this review of the Template, the Panel will request that this rule change request be assessed under the fast-tracked process.⁸⁹ A fast-tracked process

⁸⁸ The AEMC is currently progressing the Access Standards Package 2 rule change, which is expected to conclude in October 2026. Under the current NER arrangements, any resulting changes to the NER's performance standards will likely necessitate a subsequent review of the Template to ensure it remains aligned with the NER. In the future, the proposed rule change request and an AEMC standing Terms of Reference would reduce the likelihood of consecutive Template reviews being required within a short period of time.

⁸⁹ See s 96A of the NEL.

means that there would only be one round of consultation on a draft determination and draft rule (that is, no consultation paper would be published).

6.1.2 The Panel identified inefficiencies with the current five-year frequency of reviews of the Template

As per existing clause 8.8.3(ba) of the NER, the Template must be reviewed at least every five years and at such other times as the AEMC may request. It is also a requirement under rule 4.15(c)(1) and (c)(4) for Registered Participants to institute and maintain a compliance program that:

- is consistent with the Template for compliance programs; and
- provides reasonable assurance of ongoing compliance with each applicable performance standard.

While the Panel can review the Template at any time within the five-year period or such other time as the AEMC requests, the current NER arrangements do not allow the Panel to defer a review to await the outcome of any rule change made by the AEMC in response to AEMO's review of the NER's technical standards.

This is particularly of concern if the Panel is required to review the Template in line with the five-year cycle while the AEMC is progressing a rule change that may amend the access standards.⁹⁰ As the Panel cannot amend the Template to reflect changes to the access standards that *may* occur, the Panel would conduct its review in line with the NER at the present time. If the AEMC subsequently amends the access standards through a rule change, the Template would not fully reflect the NER unless the AEMC requests that the Panel undertake another review of the Template.

6.1.3 The proposed rule drafting addresses feedback received on the rule change proposal

All stakeholders were broadly supportive of the rationale of the proposed rule change and recognised that the current NER requirements were creating inefficiencies in the review process.⁹¹ Stakeholders considered that coordinating the timing of the two reviews would:

- improve the effectiveness of the Template by ensuring it reflects the current state of the NER technical standards⁹²
- prevent 'regulatory drag' where the Template lags behind the technical standards⁹³
- empower the Panel to provide guidance to participants through Template reviews whenever NER technical standards change⁹⁴
- produce a more coherent view of obligations for participants.⁹⁵

At the same time, VeriConneX cautioned against a full removal of a timing requirement.⁹⁶ In its submission, it recognised that the five-year requirement provides certainty to industry and that removing this timing requirement could create a risk where reviews are delayed, as industry consensus to initiate a review cannot be assumed.⁹⁷ Alinta Energy also suggested that, if there

90 This was the situation faced by the Panel that led it to seek a deferral of the review of the Template from December 2024 to December 2025 - see the [Rescheduling the generator compliance programs review](#) project page. Without the Panel's proposed rule change, there is a risk that the Panel may seek similar deferrals for the commencement of future reviews due to ongoing AEMC rule change processes that may amend the access standards.

91 Submissions to the draft Template, AEMO, p. 3; Alinta Energy, pp. 2-3; APA, p. 4; EnergyAustralia, p. 3; Marissa McCauley, p. 3; VeriConneX, p. 3.

92 Alinta Energy, submission to the draft Template, pp. 2-3.

93 Marissa McCauley, submission to the draft Template, p. 3.

94 APA, submission to the draft Template, p. 4.

95 EnergyAustralia, submission to the draft Template, p. 3.

96 VeriConneX, submission to the draft Template, p. 3.

97 VeriConneX, submission to the draft Template, p. 3.

were greater flexibility in the timing of future Template reviews, the Panel should seek to provide participants with maximum notice before instigating its review.⁹⁸

The Panel considers that the proposed rule drafting and final recommendation best addresses stakeholder feedback. While there is broad support for better aligning the timing of the review of the Template with any changes to the NER technical standards, there are risks to removing the NER's minimum review frequency entirely. Therefore, the Panel's recommended rule drafting retains the minimum five-yearly review requirement, but only if the AEMC does not issue a terms of reference that specifies the timing of the Panel's next review.

6.1.4 The Commission may issue a standing terms of reference after the completion of this review or the Panel's rule change request

Under clause 8.8.3(c1)(1) of the NER, the AEMC may advise the Reliability Panel of standing Terms of Reference in relation to the review of the Template for compliance programs.

After the conclusion of either this review or the AEMC's consideration of the Panel's rule change request, the AEMC may issue a standing Terms of Reference that would require the Panel to commence a review of the Template as soon as practicable after the completion of a Rule that amends the NER access standards.

Under the proposed rule, while a standing Terms of Reference is applicable, the minimum requirement to review the Template at least once every five years would not apply.

6.2 The Panel is satisfied that the scope of the Template is appropriately defined in the NER

Following stakeholder feedback to the draft report, the Panel is confident that the scope of the Template remains appropriate in supporting system security. That is, the Template provides guidance for compliance programs in relation to performance standard obligations. Therefore, the Panel will not recommend a rule change to expand the scope of the Template.

In the draft report, the Panel identified an opportunity to expand the Template's scope to align with the AER's expectations and NER requirements for a Registered Participant's compliance program in accordance with good electricity industry practice.⁹⁹ The Panel sought stakeholder feedback on a proposal to amend the NER to expand the scope of the Template to provide additional testing and monitoring methods for other NER obligations a Registered Participant may have. For example, these additional obligations could include:

- active power control requirements related to the provision of a market ancillary service
- providing primary frequency response to support stable grid frequency.

6.2.1 The Panel investigated an opportunity to revise the NER to cover additional requirements and expectations on compliance programs

As explained in the draft report, the Panel identified an opportunity for the Template to provide testing or monitoring regimes to assist Registered Participants in meeting other NER or market-based obligations.¹⁰⁰ The Panel's draft recommendation proposed expanding the scope of the Template to cover other NER obligations, to the extent they relate to performance standards. This would assist Registered Participants in developing more comprehensive compliance programs

⁹⁸ Alinta Energy, submission to the draft Template, p. 3.

⁹⁹ NER, rule 4.15(c)(2).

¹⁰⁰ AEMC, Compliance Template Review 2026, draft report, p. 35.

that better reflect good electricity industry practice, which the Panel considers extends beyond compliance with performance standards alone.

In conducting this review of the Template, the Panel identified several issues that demonstrated the potential need to improve the alignment between NER requirements and compliance expectations beyond plant performance standards. These issues were:

- Under rule 4.15(ca) of the NER, the Template must cover all performance standards and define suitable testing and monitoring regimes for each one. At the same time, rule 4.15(c)(2) requires that a plant's compliance program include procedures to monitor the performance of the plant in a manner that is consistent with good electricity industry practice. While compliance with performance standards is a key aspect of operating a plant in accordance with good electricity industry practice, this concept extends beyond demonstrating compliance with performance standards alone. For this reason, these two requirements are mostly, but not entirely, aligned.
- A 2022 AER Compliance Bulletin on contingency FCAS stated that a Registered Participant's compliance approach that solely focuses on its generator performance standard obligations would fall short of the AER's expectations in relation to compliance with the Market Ancillary Service Specification (MASS).¹⁰¹
- In its submission to the issues paper, AEMO supported testing and monitoring methods that enable periodic validation that a plant can meet performance standards or other market-based obligations concurrently or in the correct priority order.¹⁰² For example, AEMO considered that primary frequency response (PFR) should be maximised over satisfying a linear dispatch trajectory.¹⁰³

As such, the Panel sought stakeholder feedback on a proposal to expand the scope of the Template to include specific testing and monitoring methods for any relevant NER or market-based obligation, to the extent that they relate to the plant's performance standards.

6.2.2 Stakeholders cautioned against expanding the scope of the Template

The Panel received mixed feedback on its proposal to progress a rule change that expands the scope of the Template. While EnergyAustralia explicitly supported the proposal, VeriConneX's and AEMO's support was conditional on embedding guardrails to prevent excessive scope creep and ensuring the expanded scope remains closely linked to performance standards, respectively.¹⁰⁴

Other stakeholders cautioned against broadening the Template beyond its current remit.¹⁰⁵ The Panel also received an alternative suggestion to create a single mechanism to allow Registered Participants to simultaneously demonstrate compliance with performance standards, MASS and PFR requirements.¹⁰⁶ The Panel considers that a mechanism of this kind would be infeasible to create and out of the scope of this review.

Other concerns raised by stakeholders on this proposal include:

101 AER, [Contingency Frequency Control Ancillary Services \(FCAS\) Compliance Bulletin](#), 2022, p. 10.

102 AEMO, submission to the issues paper, p. 11.

103 AEMO, submission to the issues paper, p. 11.

104 Submissions to the draft Template, AEMO, p. 4; EnergyAustralia, p. 3; VeriConneX, p. 3.

105 Submissions to the draft Template, Alinta Energy, p. 3; APA, p. 4.

106 Marissa McCauley, submission to the draft Template, p. 3.

- **Risk of duplicating obligations** – AEMO highlighted that expanding the scope could result in overlap with existing compliance requirements.¹⁰⁷ The Template should not duplicate requirements that already exist in a separate guideline.
- **Compliance programs should be proportionate to market activities** – APA considered that Registered Participants are best placed to determine a proportionate compliance monitoring program that is proportionate to a Participant's market activities.¹⁰⁸ Alinta Energy similarly considered that introducing additional obligations in the Template may undermine a Registered Participant's ability to apply a risk-based approach to their compliance.¹⁰⁹
- **Potential for high costs** – APA noted that introducing additional requirements through the Template may impose a high cost for implementation and monitoring that is not proportionate to a Registered Participant's market activities.¹¹⁰

6.2.3 The Panel will not recommend a rule change on this matter

Having considered the stakeholder feedback, the Panel has decided not to recommend a rule change on this matter at this time. The Panel has considered the potential benefits of expanding the scope of the Template against the risks identified by stakeholders, and recognises that expanding the scope beyond the performance standards may create unnecessary complexity and risks duplicating existing compliance requirements.

As outlined in section 3.6 of this report, the Panel considers it important to recognise that Registered Participants may have additional market-based or NER obligations beyond their performance standards. Having regard to stakeholder feedback, the Panel considers that identifying some of these obligations in section 1.2 of the Template appropriately acknowledges their relevance and importance while avoiding the regulatory risk of overreach associated with expanding the Template's scope.

¹⁰⁷ AEMO, submission to the draft Template, p. 4.

¹⁰⁸ APA, submission to the draft Template, p. 4.

¹⁰⁹ Alinta Energy, submission to the draft Template, p. 3.

¹¹⁰ APA, submission to the draft Template, p. 4.

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AVR	Automatic voltage regulator
BESS	Battery energy storage systems
CER	Consumer energy resources
Commission	See AEMC
CPM	Continuous plant monitoring
DER	Distributed energy resources
FCAS	Frequency control ancillary service
FFR	Fast frequency response
GPS	Generator performance standard(s)
HIL	Hardware-in-the-loop
HVDC	High voltage direct current
IBR	Inverter-based resource
IRP	Integrated Resource Provider
LCC	Line-commutated converter
MASS	Market ancillary service specification
MW	Megawatt
NEL	National Electricity Law
NEO	National electricity objective
NER	National Electricity Rules
NSP	Network service provider
OEM	Original equipment manufacturer
Panel	Reliability Panel
PFR	Primary frequency response
PFRR	Primary frequency response requirements
PSDCS	Power System Data Communication Standard
PSMG	Power System Model Guidelines
R2	A term that refers to plant data provided post-connection, but can also commonly refer to commissioning and post-commissioning processes.
RMS	Root mean square
SCR	Short circuit ratio
SoC	State of charge
VAR	Volt-ampere reactive; also refers to reactive power
VSC	Voltage source converter

A Stakeholder feedback on draft compliance tables

Table A.1 summarises stakeholder feedback on the draft compliance tables in the draft Template, regarding technical matters on specific compliance methods and access standards. It also explains the Panel's rationale and its response to those suggestions, as well as whether they were adopted in the final Template.

For a more detailed list of the changes made to the compliance tables from the previous Template to the final Template, see Appendix A of the Panel's draft report. Only very minor amendments were made from the draft compliance tables to the final compliance tables, some of which are detailed in Table A.1 below.

Table A.1: Stakeholder feedback and summary list of changes made to 'Table 1' of the previous Template

Compliance table, access standard and clause	Stakeholder comments in submissions to the draft report	Changes made between draft and final Template
Table A.1: Reactive power capability (S5.2.5.1)	- AEMO, p. 1: Recommended that the Template should mention that testing should cover the full voltage range of 0.9 - 1.1 pu, or as much as possible depending on the network conditions at the time of testing; and that coordination with NSPs and AEMO may be required. - APA, p. 5: Suggested that the testing frequency for methods 2 to 4 should be extended from three years to five years, as relevant controller and sub-system settings are not subject to drift.	No change has been made. The Panel considers that requiring reactive power testing across 0.9 - 1.1 pu can be quite difficult or impossible to achieve in practice. Section A.1 of the draft Template already contained a note explaining that testing should consider a suitable voltage range around the mid-point voltage, without prescribing the entire 0.9 - 1.1 pu range, as such testing may be prohibitively disruptive or costly. Additionally, the same note already mentions that NSP and AEMO coordination may be necessary. In response to APA's suggestion to extend testing frequency to five years for some methods, more frequent testing may be necessary to demonstrate ongoing compliance in the absence of continuous monitoring, which would otherwise confirm that plant performance has not drifted. This is consistent with the Panel's guidance in section 4.7.1 of the draft and final Template.

Compliance table, access standard and clause	Stakeholder comments in submissions to the draft report	Changes made between draft and final Template
Table A.2: Quality of electricity generated (S5.2.5.2)	APA, p. 5: Considered that the testing frequencies in methods 1 and 2 are inflexible from a cost benefit perspective, and that Participants should be able to employ flexibility with testing frequency based on potential impacts to power system security arising from power quality issues.	Minor changes made. Although the suggested compliance method has been made more onerous compared to the previous Template (previously ‘after plant change’ and now ‘every three years and after plant change’), the Panel considers that three years is consistent with good electricity industry practice, especially as power quality meters are readily available. Moreover, Registered Participants are free to deviate from the suggested testing frequency, provided they have had regard to the factors listed in section 4.7 of the final Template, and the compliance principles. Separate from APA’s comment, the Panel has made two minor changes, by: - moving the clarifying note about separating plant contributions to harmonics to the preamble before Table A.2, for better prominence. - Amending the basis for compliance assessment for Method 2 to ‘achieve performance standard’, as the draft table erroneously included a reference to reactive power capability.
Table A.3: Response to frequency disturbances (S5.2.5.3)	APA, p. 5: Suggested that the Template should be clearer on the definition of ‘type testing’, as a ‘reasonable sample of plant’ is subjective and open to interpretation; also considered that type testing is onerous as it may repeat complex R2 testing.	No change made. Type testing is a suggested compliance method in cases where other methods (such as continuous monitoring) are not practical. Performing type testing once every ten years is intended to be less onerous than directly testing every wind turbine generator or inverter unit in service. The Panel considers that the definition of ‘type testing’ in section

Compliance table, access standard and clause	Stakeholder comments in submissions to the draft report	Changes made between draft and final Template
		4.11 of the final Template is suitable; a Registered Participant must determine the details of a type test to provide reasonable assurance of ongoing compliance with its performance standards, consistent with the Template's compliance principles.
Table A.9: Protection systems that impact on power system security (S5.2.5.9)	APA, p. 5: Suggested clarifying the wording of the suggested assessment frequency for method 1, as it could be interpreted to require two tests carried out in one year.	No change made. As explained in section 4.7 of the draft and final Template: - a Registered Participant should have regard to several factors when determining the actual testing frequency (or triggers for testing) for their plant's compliance program, based on their circumstances, which can differ from the table's suggestion - testing may be deferred to align with existing maintenance schedules or planned outages, where it is consistent with compliance principle 1 and good electricity industry practice.
Table A.10: Detection and response to unstable operation (S5.2.5.10)	APA, p. 5: Requested clarification if periodic testing via secondary injection is sufficient to confirm compliance; and whether the requirements under S5.2.5.10(c) are only relevant to actions that affect the plant's connection point.	No change made. The Panel cannot give guidance on this matter. As explained in section 4.2 of the draft and final Template, the compliance tables are not designed to replace other expert advice, as the Panel cannot advise Participants on their specific circumstances, the type of plant, or other relevant factors. On the requirements under S5.2.5.10(c), the specific details of the 'hierarchy of actions' would be recorded in the plant's performance standards. The Panel cannot provide guidance on the interpretation or assessment of the NER access standard through the Template.
Table A.11: Frequency control /	Marissa McCauley, p. 2: Suggested that the Template should explicitly state that compliance with active power	No change made.

Compliance table, access standard and clause	Stakeholder comments in submissions to the draft report	Changes made between draft and final Template
Frequency responsiveness and/or governor stability (S5.2.5.11)	frequency response is subject to energy availability; and that compliance programs should define how an 'energy-limited' status is communicated to the market. APA, p. 6: Suggested that the testing frequency for method 4 should be extended from four years to five years, as it would make more sense to align tests under S5.2.5.13 at the same time.	- The minimum access standard in clause S5.2.5.11 of the NER explicitly notes that frequency control may be subject to energy source availability or absorption capability, as may be applicable. Therefore, any such limitations should be detailed in the plant's performance standards. In these cases, demonstrating compliance through an active test would necessarily require energy to be available. For analysis of any power system events, if energy availability limits the plant's response, it should be accounted for in the analysis and event selection. Therefore, the Panel does not consider there is value from duplicating the existing minimum requirements for clause S5.2.5.11 in the final Template. - On extending the testing frequency for method 4, see the Panel's response above in the row for Table A.9.
Table A.18: Communications equipment (S5.2.6.2)	APA, p. 6: Suggested clarifying the wording of the suggested assessment frequency, as it could be interpreted to require two tests carried out in one year.	No change made. See the Panel's response above in the row for Table A.9.
Table B.9: Load shedding facilities (S5.3.10)	N/A	Minor change made. To recognise the use of under-frequency and under-voltage load shedding relays, the Panel has amended the suggested method. Other elements of load shedding schemes are intended to be covered by 'routine testing and/or calibration of relevant sub-systems.'
Table C.1: Remote monitoring (S5.3a.4.1)	APA, p. 6: As HVDC assets do not use transducers, considered that the suggested method is not applicable to modern HVDC links.	Minor change made. The final compliance table removes the phrase 'calibrate transducers' and broadens the method to apply to any technology

Compliance table, access standard and clause	Stakeholder comments in submissions to the draft report	Changes made between draft and final Template
		that transmits data. Noting APA's submission that stated calibration of sub-systems may be necessary, the routine testing and calibration of relevant sub-systems have been added to the compliance table as part of the suggested method.
Table C.2: Detection and response to unstable operation (S5.3a.4.2)	APA, p. 7: Requested clarification if periodic testing via secondary injection is sufficient to confirm compliance; and whether the requirements under S5.2.5.10(c) are only relevant to actions that affect the plant's connection point.	No change made. See the Panel's response above in the row for Table A.10.
Table C.3: Communications equipment (S5.3a.4.3) Table C.5: Protection systems and settings (S5.3a.6)	APA, p. 7: Suggested clarifying the wording of the suggested assessment frequency for the compliance methods, as they could be interpreted to require two tests carried out in one year.	No change made. See the Panel's response above in the row for Table A.9.
Table C.7: Reactive power capability (S5.3a.8)	APA, p. 7: Considered that adjusting reactive power at both connection points is not practicable and may be overly onerous.	No change made. The Panel considers that to test the reactive power capability of both converters of an HVDC link, both connection points must be tested.
Table C.8: Balancing of load currents (S5.3a.9)	APA, p. 7: Suggested that the Template clarify that power quality should be monitored at a point that is practical and agreed to by the NSP and the Registered Participant, which may not be the connection point.	No change made. Section 4.6.1 of the draft and final template provides guidance on circumstances where it may not be practical to monitor compliance at the connection point or at other locations.

Note: This table is a non-exhaustive summary of the changes made to the draft Template during the development of the final Template. Refer to the final Template for more information on specific changes.