
Reliability Panel AEMC

Issues paper

Compliance Template Review 2026

11 December 2025

Inquiries

Reliability Panel
Australian Energy Market Commission
Level 15, 60 Castlereagh Street
Sydney NSW 2000

E panel@aemc.gov.au
T (02) 8296 7800

Reference:

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.



Copyright

This work is copyright. The Copyright Act 1968 (Cth) permits fair dealing for study, research, news reporting, criticism and review. You may reproduce selected passages, tables or diagrams for these purposes provided you acknowledge the source.

Citation

To cite this document, please use the following:

AEMC, Compliance Template Review 2026, Issues paper, 11 December 2025

Reliability Panel members

Rainer Korte (Chair), Commissioner, AEMC

Sally McMahon (Acting Chair), Commissioner, AEMC

Stewart Bell, Executive General Manager, Operations and Planning, Powerlink Queensland

Suzanne Falvi, Executive General Manager, Corporate Affairs, AGL

Joel Gilmore, General Manager, Regulation and Energy Policy, Iberdrola Australia

Ken Harper, Group Manager, Near-Time Operations, AEMO

Craig Memery, Senior Advisor, Energy and Water Justice, Justice and Equity Centre

Melissa Perrow, General Manager, Energy, Brickworks Limited

Damien Sanford, Chief Executive Officer, Polar Blue

Mark Vincent, Chief Operating Officer, SA Power Networks

Rachele Williams, Director, Plenary Group

Summary

- 1 On 11 December 2025, the Australian Energy Market Commission (AEMC or Commission) issued the terms of reference for the Reliability Panel (Panel) to conduct a review of the Template for Compliance Programs (Template). The Commission requested that the Panel update the Template to reflect changes made to the National Electricity Rules (NER or rules) performance standards since the last review of the Template in 2019.¹
- 2 Under the NER, Registered Participants have obligations to ensure that their plant meets or exceeds applicable performance standards and that their plant does not materially affect power system security.² Effective compliance with performance standards contributes to the delivery of reliable and secure electricity to customers in the National Electricity Market (NEM).
- 3 The Template is designed to assist Registered Participants create and maintain compliance programs that provide reasonable assurance of ongoing compliance with their plant's technical performance standards. The Template is also a key component of the Australian Energy Regulator's (AER) compliance framework, with Tier 1 civil penalties attached to the failure of creating a compliance program consistent with the Template.³
- 4 The NER requires the Panel to determine, modify as necessary and publish the Template.⁴ The Panel must also review the Template every five years and at such other times as the AEMC may request.⁵
- 5 As per clause 8.8.3(ba) of the NER, the Panel would have been required to commence the next review of the Template by 19 December 2024. However, to accommodate the completion of the 'Improving the NEM access standards – Package 1' rule change (*Access Standards Package 1 rule*), the review of the Template was rescheduled to commence by 19 December 2025.⁶

The Template will be updated to reflect changes to the NER's access standards

- 6 The *Access Standards Package 1 rule* amended the technical requirements for generators, integrated resource systems (which includes battery systems), synchronous condensers and high voltage direct current (HVDC) links to connect to the power system. The final rule also amended the technical requirements to apply them by plant type, rather than by registration category.
- 7 In undertaking this review, the AEMC requested that the Panel amend the Template to reflect changes to the NER following implementation of the *Access Standards Package 1 rule*.
- 8 To account for the amendments to the NER's access standards, the Panel's review seeks to broaden the Template to include schedule 5.2, 5.3 and 5.3a plants (noting that prior to the completion of the Improving the NEM access standards – Package 1 rule change, the Template was drafted with intention of being applied only to registered Generators). For reference, in the NER:

¹ AEMC, Terms of Reference to the Reliability Panel, Compliance template review 2026.

² NER, clause 4.15(a).

³ NER, clauses 4.15(b) and (c).

⁴ NER, clause 8.8.1(a)(2B).

⁵ NER, clause 8.8.3(ba).

⁶ NER, rule 11.178; AEMC, Rescheduling the generator compliance programs review, Rule determination, 28 November 2024.

- Schedule 5.2 plant includes generating systems, integrated resource systems and synchronous condensers (both market participant- and network-owned)⁷
- Schedule 5.3 plant includes loads and distribution networks⁸
- Schedule 5.3a plant includes HVDC links.⁹

The Panel's assessment approach will be guided by the NEO and other considerations

- 9 The Panel's review of the Template will be guided by the National Electricity Objective (NEO) and assessment criteria that capture the key potential impacts – costs and benefits – that the Panel will consider throughout the review. These assessment criteria include:
- **Safety, security and reliability:** the Template should promote efficient testing regimes for Registered Participants to demonstrate their ongoing compliance with their performance standards, while minimising the risk that consumers bear the cost of overly onerous testing regimes.
 - **Innovation and flexibility:** the Template should accommodate all relevant plant types and account for technologies that are likely to become more prevalent in a future power system.
 - **Principles of good regulatory practice:** the Template should be clear to assist Registered Participants in creating compliance programs for their plant and assist the AER carry out its compliance functions. The Template should also strike the right balance between prescription and flexibility.
- 10 The Panel has developed a consolidated set of compliance principles for stakeholders' consideration and feedback. The compliance principles were developed during the first iteration of the Template for Generator Compliance Programs and have not been updated since 2009. These principles perform two functions:
1. Assist the Panel with developing the Template and providing a guide for future reviews.
 2. Assist Registered Participants with developing and modifying their compliance programs.
- 11 The revised principles aim to streamline and clarify the intent of the existing principles. See section 2.3.

The Panel is seeking feedback on three key issues

- 12 The Panel is seeking stakeholder feedback on three key issues:
- **Updating the Template to reflect a broader set of plant types** – the revised Template should provide guidance to all types of Registered Participants that clause 4.15(b) of the NER applies to, including schedule 5.2 plant, schedule 5.3 plant and schedule 5.3a plant.
 - **Updating the Template to reflect new and amended technical requirements** – since the Panel's last review of the Template in 2019, the Commission has made several rules that have amended the access standards in schedule 5.2 of the NER. The revised Template should account for these changes and the Panel will review the testing and monitoring regimes in the Template.
 - **Updating the Template to reflect changes in technologies and costs** – the monitoring, testing and modelling regimes for inverter-based plant are substantially different to those for

7 NER Schedule 5.2, clause S5.2.1(b).

8 NER Schedule 5.3, clause S5.3.1a(b).

9 NER Schedule 5.3a, clauses S5.3a.1a(b) and S5.3a.1a(c).

synchronous plant. The revised Template should account for these differences and recognise the unique attributes of different technologies. The Panel will also consider changes in costs to compliance methods since the Template was last updated. The Template should be sufficiently prescriptive and robust to help Registered Participants demonstrate compliance, but not so onerous or expensive that they impose an unreasonable burden.

Stakeholder feedback is due by 22 January 2026

- 13 Stakeholders can help shape the Template by participating in this review process. Engaging with stakeholders helps us understand the potential impacts of our decisions and, in so doing, will contribute to well-informed, high quality Template.
- 14 Written submissions are due by **22 January 2026**. See section 1.4.1 for further details.
- 15 The Panel is also considering holding a technical workshop to provide a platform to discuss and work through the issues related to this review with interested stakeholders. If you are interested in participating in a workshop for this project please contact the project team directly or indicate your interest in via your submission to this consultation paper.

Full list of consultation questions

Question 1: Effectiveness of the Template in providing guidance for compliance programs

What are stakeholders' experiences of using the Template?

Does the current Template provide useful guidance to help parties with their obligations under the NER?

What opportunities are there to improve the Template to provide better guidance in relation to compliance with NER technical performance standards?

Question 2: Proposed assessment principles and rationale

Do you agree with the proposed high level assessment criteria?

Are there additional criteria the Panel should consider or criteria included here that are not relevant?

Question 3: Proposed revised compliance principles

Do you agree with the revised compliance principles?

Are there any key concepts that are not currently outlined in the compliance principles, that should be included?

Question 4: Structure and form of the Template

Do stakeholders support the Panel's proposed approach to revise the Template structure based on plant type to include schedule 5.2, schedule 5.3 and schedule 5.3a plant?

Do stakeholders have any suggestions for how the Template should provide guidance to different plant types?

Do stakeholders propose any alternative approaches to revising the Template structure to accommodate additional plant types and align with the revised NER?

Question 5: Testing and monitoring regimes for schedule 5.3 plant and schedule 5.3a plant

In general terms, what kinds of tests and monitoring regimes are included in existing compliance programs for schedule 5.3 plant (certain loads and distribution networks) and schedule 5.3a plant (HVDC links)? Is there a consistent structure for these programs that can be leveraged for the Template?

Are there any existing methodologies in the Template that would be appropriate to apply for new plant types?

Are there any specific testing or monitoring methodologies that are unique to a specific plant type that the Panel should consider including in the Template?

Question 6: Appropriateness of existing testing and monitoring regimes

Despite the extensive changes to the technical requirements in Schedule 5.2, which existing testing and monitoring regimes in the Template are likely to remain suitable for new plant?

Are there any specific details about existing testing or monitoring regimes in the Template that should be amended to account for the rule changes listed above? For example, should the suggested frequency of testing of particular methodologies be amended for more effective compliance programs?

Question 7: Suggestions for new testing or monitoring regimes

Are stakeholders aware of any new testing or monitoring regimes that could contribute to making more effective compliance programs for performance standards made under the amended access standards?

Are there any commonly used regimes that are not currently listed in the Template?

Question 8: Reflecting changes in technology and cost in the Template

Does the current Template appropriately consider all technology types? If not, how can the Template be amended to better reflect newer technologies?

Have the costs of the compliance methods listed in the Template changed significantly?

What changes, if any, could be made to the Template to reflect updated information on the costs of testing and compliance regimes?

Contents

1	Introduction	1
1.1	The Template is a key component of the broader compliance framework	1
1.2	The NER outlines the requirements for the Panel's review of the Template	2
1.3	The purpose and scope of this review	2
1.4	We are seeking submissions on the issues raised in the paper by 22 January 2026	4
1.5	The structure of this issues paper	5
2	The Panel's assessment approach	6
2.1	The Panel's assessment will be guided by the NEO	6
2.2	The Panel proposes to assess the Template against three criteria	6
2.3	The Panel will consider the Template's compliance principles	8
3	Updating the Template to reflect a broader set of plant types	11
3.1	The Access Standards Package 1 rule amended the name of the Template to better reflect NER obligations	12
3.2	Compliance programs for schedule 5.3 plant and schedule 5.3a plant may be significantly different to schedule 5.2 plant	13
4	Updating the Template to reflect new and amended technical requirements	14
4.1	Summary of amendments to schedule 5.2 of the NER since the 2019 review	16
5	Updating the Template to reflect changes in technologies and costs	18
5.1	Technological changes may have changed stakeholders' use the Template	18
5.2	The costs of testing and compliance regimes may have significantly changed	18
Appendices		
A	The current compliance principles	20
B	The Improving the NEM access standards – Package 1 rule amended the NER's access standards	21
Glossary		22
Abbreviations		24
Tables		
Table 1.1:	Indicative review timetable	4
Table 2.1:	Proposed compliance principles	9
Table 3.1:	Registered Participants must have compliance programs for their registered plant	11
Table 4.1:	Summary of amendments to schedule 5.2 since NER version 129	16

1 Introduction

On 11 December 2025, the Australian Energy Market Commission (AEMC or Commission) issued the terms of reference for the Reliability Panel (Panel) to conduct a review of the Template for compliance programs (Template).¹⁰ This issues paper sets out the issues the Panel will consider as part of this review.

This introductory chapter outlines:

- The role of the Template for compliance programs
- The NER requirements for this review
- The purpose and scope of this review
- The timeline for submissions on the issues raised in this paper
- The structure of the issues paper

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:¹¹

- meets or exceeds applicable performance standards
- does not materially affect power system security.

Effective compliance with performance standards by Registered Participants contributes to the delivery of a reliable and secure electricity to customers in the National Electricity Market (NEM).

The Template is designed to assist Registered Participants with creating and maintaining compliance programs to 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 Tier 1 civil penalties attached to the failure of creating a compliance program consistent with the Template.¹²

The NER requires a Registered Participant's compliance program to:¹³

- Be consistent with the Template for compliance programs
- 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.

To comply with the requirements under the NER,¹⁴ the current Template contains:¹⁵

¹⁰ 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.

¹¹ NER, clause 4.15(a).

¹² NER, clauses 4.15(b) and (c).

¹³ NER, clause 4.15(c).

¹⁴ NER, clause 4.15(ca).

¹⁵ Reliability Panel, [Template for Generator Compliance Programs](#), 19 December 2019.

- A set of compliance principles that should be considered when developing and modifying compliance programs
- Information about the compliance framework
- A table detailing examples of specific test methods and procedures that may be used to demonstrate compliance with each of the technical requirements set out in Schedule 5 of the NER.

Noting the intent of the Template in assisting Registered Participants create and maintain compliance programs, the Panel is interested in stakeholders' experiences with the Template.

Question 1: Effectiveness of the Template in providing guidance for compliance programs

What are stakeholders' experiences of using the Template?

Does the current Template provide useful guidance to help parties with their obligations under the NER?

What opportunities are there to improve the Template to provide better guidance in relation to compliance with NER technical performance standards?

1.2 The NER outlines the requirements for the Panel's review of the Template

The NER requires the Panel to determine, modify as necessary and publish the Template.¹⁶ The Panel must also review the Template every five years and at such other times as the AEMC may request.¹⁷

The Template was most recently updated on 19 December 2019. These amendments addressed changes to the generator technical performance standards made by the 'Generator technical performance standards' rule change in 2018.¹⁸

As per clause 8.8.3(ba) of the NER, the Panel would have been required to commence the next review of the Template by 19 December 2024. However, to accommodate the completion of the 'Improving the NEM access standards – Package 1' rule change (*Access Standards Package 1 rule*), the review of the Template has been rescheduled to commence by 19 December 2025.¹⁹

1.3 The purpose and scope of this review

On 11 December 2025, the Commission issued the terms of reference for the Panel to conduct a review of the Template.²⁰ In undertaking this review, the AEMC requested that the Panel amend the Template to reflect changes to the NER following implementation of the *Access Standards Package 1 rule*.²¹ This includes:

- changes or additions to the Template as necessary to account for the changes to the technical requirements made in the *Access Standards Package 1 rule*.

¹⁶ NER, clause 8.8.1(a)(2B).

¹⁷ NER, clause 8.8.3(ba).

¹⁸ Reliability Panel, Generator Compliance Template Review - 2019, [Final report](#), 19 December 2019, p. 1.

¹⁹ NER, rule 11.178; AEMC, Rescheduling the generator compliance programs review, [Rule determination](#), 28 November 2024.

²⁰ AEMC, Terms of Reference to the Reliability Panel, Compliance template review 2026.

²¹ [National Electricity Amendment \(Improving the NEM access standards - Package 1\) Rule 2025 No. 6](#).

- changes or additions to the Template as necessary to broaden the Template to apply to other registered plant types other than generation, such as (but not limited to) synchronous condensers, integrated resource systems, high voltage direct current (HVDC) links and loads.

The AEMC also invited the Panel to consider whether:

- there have been 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.

1.3.1 The review will not consider potential future changes to the NER

The Panel's review will focus on the application of the Template to support compliance arrangements for registered plant in alignment with the access standards under the NER. As such, this review will not consider how the Template may be revised to reflect potential future changes to the NER. In particular, issues being considered through the 'Improving the NEM access standards – Package 2' rule change (*Access Standards Package 2 rule change*) and distributed energy resources' (DER) and consumer energy resources' (CER) standards and compliance are out of scope for this review.

The review will not consider potential changes to the NER by the 'Improving the NEM access standards – Package 2' rule change

The Panel recognises the relevance of the Commission's consideration of the *Access Standards Package 2 rule change* and potential interactions with the Template. The Commission outlines in its terms of reference that it does not expect the Panel to amend the Template to reflect any potential changes to the access standards currently under consideration through the *Access Standards Package 2 rule change*.

The Panel notes that through this rule change, the Commission is considering the performance standards and compliance arrangements for non-registered plant.²² However, the Panel considers it would not be appropriate to pre-empt the final rule or delay updating the Template, given the current Template does not provide guidance for other plant types other than generating systems.

The review will not consider compliance arrangements for DER and CER

The Panel is also aware of the importance of consistent technical standards and compliance arrangements for DER and CER. This includes AS/NZS 4777.2 in relation grid connection of inverter-based DER, such as residential and commercial solar PV.²³ This issue is the being addressed by AEMO and through the National Consumer Energy resources roadmap priority T1 and T2 relating to nationally consistent standards and regulatory frameworks for CER.²⁴

While the Panel notes the ongoing work in relation to technical standards and compliance arrangements for non-registered plant CER and DER, these matters are not within the scope of this review.

²² AEMC, Improving the NEM access standards - Package 2, Consultation paper, 8 May 2025.

²³ For further information on this issue, see AEMO, [Compliance of Distributed Energy Resources with Technical Settings](#): 2025 Update, August 2025.

²⁴ Department of Climate Change, Energy, the Environment and Water, National Consumer Energy Resources Roadmap Implementation Plan Update, 15 August 2025, p.11.

1.4 We are seeking submissions on the issues raised in the paper by 22 January 2026

The Panel will consult with stakeholders throughout this review by seeking feedback on this issues paper and the subsequent draft report. The Panel is also considering holding a technical workshop to work through the key issues of this review with stakeholders. The indicative key dates for this review are shown in Table 1.1.

Table 1.1: Indicative review timetable

Milestone	Date
Issues paper published	11 December 2025
Stakeholder submissions on the issues paper due	22 January 2026
Potential technical workshop	February 2026
Draft report published	2 April 2026
Stakeholder submissions on the draft report and Template due	30 April 2026
Final report and Template published	25 June 2026

1.4.1 Making a submission

Stakeholders can help shape the Template by participating in this review process. Engaging with stakeholders helps us understand the potential impacts of our decisions and, in so doing, will contribute to a well-informed, high quality Template.

We have included questions in each chapter to guide feedback, and the full list of questions is above. However, you are welcome to provide feedback on any additional matters that may assist the Panel in its review.

Due date: Written submissions responding to this consultation paper must be lodged with the AEMC by **Thursday 22 January 2025**.

How to make a submission: From the AEMC's website, www.aemc.gov.au, find the "lodge a submission" function under the "Contact Us" tab, and select the project reference code **REL0095**. Tips for making submissions are available on the AEMC website.

Publication: The AEMC publishes submissions on its website. However, we will not publish parts of a submission that we agree are confidential, or that we consider inappropriate (for example, offensive or defamatory content, or content that is likely to infringe intellectual property rights).

1.4.2 Other opportunities for engagement

The Panel is considering holding a technical workshop to provide a platform to discuss and work through the issues related to this review with interested stakeholders. If you are interested in participating in a workshop for this project, please contact the project team directly or indicate your interest in via your submission to this consultation paper.

1.4.3 Contact us

To contact us, please use the form available on the project page.

1.5 The structure of this issues paper

- Chapter 2 provides an overview of the Panel’s assessment approach
- Chapter 3 discusses the issues related to updating the Template to reflect a broader set of plant types
- Chapter 4 discusses the issues related to updating the Template to reflect the current NER technical requirements
- Chapter 5 discusses the issues related to updating the Template to reflect changes in technologies and costs

2 The Panel's assessment approach

The Template is designed to assist Registered Participants in developing and designing compliance programs for their plant.

This section describes the assessment approach the Panel proposes to adopt throughout this review. It covers the Panel's consideration of:

- The National Electricity Objective (NEO)
- Relevant assessment criteria
- The Template's compliance principles

2.1 The Panel's assessment will be guided by the NEO

The Panel must apply 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.²⁵

The Panel's review of the Template must have regard to the NEO. 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.

Throughout this review, the Panel must consider and balance the emissions reduction component²⁶ 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.²⁷

2.2 The Panel proposes to assess the Template against three criteria

To ensure the Template will, or is likely to, contribute to the achievement of the NEO, the Panel proposes to assess any updates to the Template against the set of criteria outlined below. These assessment criteria capture the key potential impacts – costs and benefits – that the Panel will consider throughout the review. The Panel will consider these impacts within the framework of the NEO.

The Panel consider the high level assessment criteria related to the review are:

- Safety, security and reliability
- Innovation and flexibility
- Principles of good regulatory practice

²⁵ The AEMC must advise the Panel terms of reference in relation to specific Panel determinations and reviews under clause 8.8.3(c) of the NER.

²⁶ 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.

²⁷ AEMC, [Reliability Panel guide to applying the emissions component of the National Electricity Objective](#), 4 April 2024, p. 2.

2.2.1 Safety, security and reliability

It is critically important that all plant comply with their technical performance standards to ensure that the power system remains safe, secure and reliable against disturbances. To achieve this, the Template should assist Registered Participants with the creation and maintenance of their compliance program.

The Template should also promote efficient testing regimes for Registered Participants to demonstrate their ongoing compliance with their performance standards, while minimising the risk that consumers bear the cost of overly onerous testing regimes.

2.2.2 Innovation and flexibility

To achieve the criterion, innovation and flexibility, the Template should facilitate new technologies and promote effective compliance programs that do not unnecessarily constrain innovation. The Template should also accommodate all relevant plant types and should account for technologies that are likely to become more prevalent in the future power system.

2.2.3 Principles of good regulatory practice

The Template should aim to facilitate, as much as reasonably possible, the creation of effective compliance programs. Therefore, the Template should be clear and the Panel's rationale behind amendments should be articulated in the review or in the Template itself.

There are several rule changes and AEMO reviews aimed at updating and modernising the NER access standards to better recognise and account for new technologies, especially inverter-based plant. The Template should complement existing reforms by recognising a wider range of plant types and access standards, noting that future updates are likely necessary to account for future rule changes.

To ensure the Template meets the criterion of good regulatory practice, the Panel will consider:

- The clarity of the Template
- Balancing the need for prescription and flexibility

Clarity of the Template

The Template should provide assistance to Registered Participants to develop compliance programs for their plant as required under the NER. The Template should also assist the AER in carrying out its compliance functions. Any amendments to the Template should clarify how the Template's content (the compliance principles and the table itself) should be applied to give effect to the Template's overall role and purpose. By clarifying the provisions in the Template, it should provide clearer guidance as to how Registered Participants can develop compliance programs consistent with 'good electricity industry practice'.

Balancing prescription and flexibility

The Template should be sufficiently prescriptive to provide a common basis for Registered Participants to develop suitable compliance programs. If the Template was overly broad, then the Panel considers that it would not encourage effective compliance programs that provide reasonable assurance of performance standard compliance. Furthermore, the Template should be sufficiently prescriptive to aid the AER in carrying out its compliance and enforcement function in relation to Rule 4.15 of the NER.²⁸

²⁸ NER, clause 4.15(a), (b) and (e).

Simultaneously, if the Template is too prescriptive, then it would not allow for genuine differences in plant type or operation and may be overly burdensome for Registered Participants. The Template should therefore achieve the right balance between prescription and flexibility.

Question 2: Proposed assessment principles and rationale

Do you agree with the proposed high level assessment criteria?

Are there additional criteria the Panel should consider or criteria included here that are not relevant?

2.3 The Panel will consider the Template's compliance principles

The Template includes a set of compliance principles that perform two functions:

1. Assist the Panel with developing the Template and providing a guide for future reviews.
2. Assist Registered Participants with developing and modifying their compliance programs.

The compliance principles were first developed during the first iteration of the Template for Generator Compliance Programs.²⁹ At the conclusion of this review, the Panel explained that the principles provided guidance for the Panel to develop the Template and noted that the principles should be a guide for future revisions to the Template.³⁰

The Panel also noted the principles should provide guidance to assist Generators develop their own compliance programs consistent with the Template and good electricity industry practice.³¹ The principles have not been updated since 2009.

To support this review, the Panel has developed a revised set of consolidated compliance principles based on the existing compliance principles in the Template.

Table 2.1 outlines the proposed compliance principles and the rationale for its change. See appendix A for a summary of the existing principles.

Question 3: Proposed revised compliance principles

Do you agree with the revised compliance principles?

Are there any key concepts that are not currently outlined in the compliance principles, that should be included?

²⁹ AEMC Reliability Panel, [Template for Generator Compliance Programs – Final report](#), 31 July 2009.

³⁰ AEMC Reliability Panel, [Template for Generator Compliance Programs – Final report](#), 31 July 2009, p. 29.

³¹ AEMC Reliability Panel, [Template for Generator Compliance Programs – Final report](#), 31 July 2009, p. 29.

Table 2.1: Proposed compliance principles

Proposed compliance principles	Summary of change
<p>Principle 1: Materiality and efficiency of compliance programs</p> <p>When selecting, developing or amending a testing or monitoring regime for a <i>performance standard</i>, a <i>Registered Participant</i> should consider and balance the costs of implementing the rime, the risk of any tests and the materiality of a potential non-compliance against the <i>performance standard</i>, to contribute to the <i>national electricity objective</i>.</p>	<ul style="list-style-type: none"> • Principle 1 consolidates the existing Principle 3 and 6 relating to materiality and efficiency of compliance programs. • The proposed principle clarifies that the ‘materiality of the issue’ is referring to the ‘materiality of potential non-compliance’. • The proposed principle also references the NEO to provide guidance as to how the named factors should be traded off against each other.
<p>Principle 2: Frequency of testing</p> <p>Part 1: Where <i>plant</i> parameters may be variable with time, <i>Registered Participants</i> are accountable for regularly ensuring the functionality and integrity of relevant systems and settings to ensure that any variability complies with the <i>plant’s performance standards</i>, in accordance with the <i>plant’s</i> compliance program.</p> <p>Part 2: Where <i>plant</i> parameters are not subject to variability with time, a compliance testing regime should be restricted to confirmation that the <i>plant</i> continues to perform as intended with repeat testing when there are reasonable grounds to believe that the <i>plant</i> performance may have changed.</p>	<ul style="list-style-type: none"> • Principle 2 part 1 reflects the existing Principle 1 and relates to the frequency of testing and variability of plant performance over time. • Principle 2 part 2 reflects the existing Principle 2 and relates to methods for testing compliance and the risks and benefits of said testing. • Minor editorial changes have been made to clarify that these principles apply to testing regimes, and not necessarily to monitoring regimes.
<p>Principle 3: Role of continuous plant monitoring</p> <p>Subject to Principle 1, and wherever it is practicable to do so, a <i>Registered Participant</i> should consider and institute monitoring regimes that are able to analyse <i>plant</i> performance during an event, disturbance or normal operation to demonstrate ongoing compliance against its <i>performance standards</i>.</p>	<ul style="list-style-type: none"> • Principle 3 consolidates the existing principle 7 and 8. • The proposed principle outlines a preference for continuous plant monitoring. The Panel considers the benefits of continuous monitoring for system security reasons outweighs the potential costs to the Registered Participant who conducts the monitoring. The preference for continuous monitoring was not explicit in the original principles. However, it is consistent with section 1.4 of the current Template.
Principle 4: Efficacy of compliance program	

Proposed compliance principles	Summary of change
<p>A <i>Registered Participant's</i> active use and implementation of a compliance program that has been developed consistent with these compliance principles and with the template must provide a reasonable assurance of compliance with the <i>Registered Participant's</i> compliance management framework. A <i>Registered Participant</i> should review and update its compliance program(s) periodically.</p>	<ul style="list-style-type: none"> • Principle 4 consolidates the existing Principle 5 and 10 due to sharing similar objectives. • This principle relates to the frequency of the compliance programs review and providing guidance for Registered Participants' compliance programs to ensure the Template's efficacy. • Minor editorial changes have been made for clarity of use.
<p>Principle 5: Reflection of good electricity industry practice</p> <p>The template must support the development of compliance programs which align with these compliance principles and represent <i>good electricity industry practice</i>. The template should specify the objectives and outcomes to be achieved by each suggested testing or monitoring regime, and an appropriate test interval. A <i>Registered Participant</i> should exercise diligence and <i>good electricity industry practice</i> to determine the detailed methods and procedures to be employed for its <i>plant</i>.</p>	<ul style="list-style-type: none"> • Principle 5 largely reflects the existing Principle 5, with minor editorial changes for clarity. • This principle relates to maintaining a compliance program that reflects 'good electricity industry practice'. The Panel recommends keeping reference this explicitly in the compliance principles.

3 Updating the Template to reflect a broader set of plant types

When the Template for compliance programs was instituted in 2008, the vast majority of registered participants in the NEM, besides network service providers (NSP), were generators. In the context of registered performance standards and compliance programs, the term 'Registered Participant' was used somewhat interchangeably with 'Generator'.³² As such, the Template was named the 'Template for **generator** compliance programs' and was written predominantly with generators in mind.

Since 2008, the number and variety of registered participants have dramatically increased. There are now many more persons who must institute and maintain compliance programs for their plant under NER clause 4.15(b). For example, the relatively new category of Integrated Resource Provider (IRP) typically captures battery energy storage systems (BESS), and may also include scheduled loads alongside scheduled or semi-scheduled production units.³³

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

Table 3.1: 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
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

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, clause 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 would be covered by schedule 5.1. This is because the definition of *performance standard* does not include network performance requirements under schedule 5.1.

32 For example, see [Template for Generator Compliance Programs](#) review, issues paper, p 5. In addition, in the [Performance Standard Compliance of Generators](#) rule change, despite the proponent suggesting new 'compliance program guidelines' to aid registered participants (without explicit reference to generators), the name of the rule change and subsequent final rule instituting the Template have the word 'generator'.

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

3.1 The Access Standards Package 1 rule amended the name of the Template to better reflect NER obligations

During the *Access Standards Package 1 rule*, the Commission decided to rename the Template to the *template for compliance programs* throughout the NER. This renaming more accurately reflects the range of persons that NER clause 4.15(b) applies to, many of which are not generators.³⁴

The Panel considers that, following this review, the Template should provide guidance to all types of Registered Participants that clause 4.15(b) applies to, including schedule 5.2 plant, schedule 5.3 plant and schedule 5.3a plant. This ensures that the Template can promote the design and use of effective compliance programs for all persons who must have compliance programs for their registered plant.

3.1.1 The Panel proposes to structure the Template by plant type

Broadening the Template to encompass all relevant Registered Participants will be a significant change to the Template. To ensure the Template is clear, the Panel proposes amending the Template's structure by plant type to reflect the inclusion of schedule 5.2 plant, schedule 5.3 plant and schedule 5.3a plant.

The Panel's initial view is that this revised structure would provide clear guidance for the development of compliance programs for each plant type and align with the relevant structure of the NER for schedule 5.2, schedule 5.3 and schedule 5.3a. For example, new tables separated by each relevant schedule would include individual sections and tables for:

- **schedule 5.2 plant** (generating systems, integrated resource systems and synchronous condenser systems)
- **schedule 5.3 plant** (relevant loads and distribution networks)
- **schedule 5.3a plant** (HVDC links).

3.1.2 An alternative approach is to structure the Template by access standards

An alternate approach may be to group testing and monitoring regimes for similar access standards across the schedules together. For example:

- S5.2.5.1 and S5.3a.8 both relate to **reactive power capability** and could be grouped together
- S5.2.5.13 and S5.3a.15 both relate to **voltage and reactive power control** and could be grouped together.
- S5.2.5.2, S5.3.7, S5.3.8 and S5.3a.10 all relate to **voltage and harmonic voltage fluctuations and distortion** and could all be grouped together.

The Panel's initial view is that this alternate approach would be a more complex structure that would reduce the overall clarity and ease of use for the Template. At the same time, the Panel is interested in stakeholder feedback and suggestions on the best way to revise the structure or form of the Template to incorporate all relevant plant types covered under the NER access standards.³⁵

34 AEMC, [Access Standards Package 1 – final determination](#), 22 May 2025, p 18.

35 NER, schedule 5.1, 5.2, 5.3, 5.3a.

Question 4: Structure and form of the Template

Do stakeholders support the Panel's proposed approach to revise the Template structure based on plant type to include schedule 5.2, schedule 5.3 and schedule 5.3a plant?

Do stakeholders have any suggestions for how the Template should provide guidance to different plant types?

Do stakeholders propose any alternative approaches to revising the Template structure to accommodate additional plant types and align with the revised NER?

3.2 Compliance programs for schedule 5.3 plant and schedule 5.3a plant may be significantly different to schedule 5.2 plant

To ensure that the Template remains a useful document and resource for registered participants to institute and maintain their compliance programs, the Panel considers that the Template should provide technical guidance to all relevant plant types, appropriately recognising their distinct characteristics.

The operating profiles, maintenance schedules and degradation rates of plant can all significantly differ between plant types. This means that suggested testing and monitoring regimes, as well as suggested testing frequencies, should account for these differences between plant types. Where appropriate, it may be preferable for the Template to specify any relevant technology-specific testing or monitoring methods that would result in more effective and efficient compliance programs.

For example, although modern HVDC links have similar technical characteristics to other inverter-based plant, their different functions and operating schedules may mean that testing and monitoring regimes that are suitable for inverter-based generators or storage are not suitable for HVDC links, or vice versa.

When proposing new testing or monitoring regimes for inclusion in the Template, the Panel will have regard to the compliance principles and the NEO (see chapter 2 for more information). The Panel will also seek expert technical advice and invite feedback from stakeholders and industry to ensure that new regimes are appropriate for the relevant plant types.

Question 5: Testing and monitoring regimes for schedule 5.3 plant and schedule 5.3a plant

In general terms, what kinds of tests and monitoring regimes are included in existing compliance programs for schedule 5.3 plant (certain loads and distribution networks) and schedule 5.3a plant (HVDC links)? Is there a consistent structure for these programs that can be leveraged for the Template?

Are there any existing methodologies in the Template that would be appropriate to apply for new plant types?

Are there any specific testing or monitoring methodologies that are unique to a specific plant type that the Panel should consider including in the Template?

4 Updating the Template to reflect new and amended technical requirements

As per NER clause 4.15(ca), the Template must cover all performance standards. This includes performance standards that were created in accordance with any version of the National Electricity Rules or the National Electricity Code. Table 1 of the existing Template provides guidance for all performance standards made in accordance with the initial Code, all amended versions of the Code and versions 1-129 of the rules.

Since the Panel's last review of the Template in 2019, the Commission has made several rules that have amended the technical requirements (or access standards) in Schedule 5.2 of the NER, which now applies to all *production systems* (which includes both *generating systems* and *integrated resource systems*) and *synchronous condenser systems*.³⁶ These rule changes are:

- the [Efficient management of system strength on the power system](#) Rule 2021
- the [Integrating energy storage systems into the NEM](#) Rule 2021
- the [Efficient reactive current access standards for inverter-based resources](#) Rule 2022
- the [Improving the NEM access standards - Package 1](#) Rule 2025 (Access Standards Package 1).

For a summary list of all relevant changes from these rule changes, see section 4.1.

As a consequence of these rule changes, the schedule 5.2 access standards have evolved numerous times between NER versions 130 to 236. Registered participants may have plant with performance standards made in accordance with the NER at any time between versions 130 to 236, and the Template must also provide suitable guidance for all future connecting schedule 5.2 plant. As such, the Panel intends to review the testing and monitoring regimes in the Template (as well as the suggested testing frequencies) and propose amendments to ensure that the regimes are fit for purpose for all existing and new plant, taking into account the numerous changes to the access standards.

For example, following the Panel's 2019 Template review, to account for the [Generator technical performance standards](#) Rule 2018, the Panel amended the suggested frequency of testing for a method under 'Responses to Disturbances following Contingency Events' in Table 1 of the Template, due to new multiple fault ride through requirements introduced in clause S5.2.5.5.³⁷ It also defined the terms 'major event', 'significant disturbance' and 'major disturbance' to provide for more effective compliance regimes against S5.2.5.5.³⁸

The Panel is interested in any stakeholder feedback or suggestions on how Table 1 of the Template could be best amended to account for the evolution of the access standards in schedule 5.2 of the NER. We strongly encourage interested stakeholders to refer to the Access Standards Package 1 [final determination](#) and [final rule](#) when contemplating the existing regimes in the Template, as this rule change involved the most extensive overhaul of the access standards since 2019.

³⁶ See NER, chapter 10 for the glossary definitions of the italicised terms. Currently, the Template only provides guidance to Generators for their generating systems, reflecting the application of schedule 5.2 to Generators (the registration category) and not to Schedule 5.2 Participants (as from NER version 234 onwards, following the *Improving the NEM access standards - Package 1* Rule 2025). See chapter 3 for how the Panel intends to broaden the application of the Template to more plant types other than just generating systems.

³⁷ [Generator Compliance Template Review 2019](#), final report, pp. 10-11.

³⁸ [Generator Compliance Template Review 2019](#), final report, pp 8-9.

Question 6: Appropriateness of existing testing and monitoring regimes

Despite the extensive changes to the technical requirements in Schedule 5.2, which existing testing and monitoring regimes in the Template are likely to remain suitable for new plant?

Are there any specific details about existing testing or monitoring regimes in the Template that should be amended to account for the rule changes listed above? For example, should the suggested frequency of testing of particular methodologies be amended for more effective compliance programs?

Question 7: Suggestions for new testing or monitoring regimes

Are stakeholders aware of any new testing or monitoring regimes that could contribute to making more effective compliance programs for performance standards made under the amended access standards?

Are there any commonly used regimes that are not currently listed in the Template?

4.1 Summary of amendments to schedule 5.2 of the NER since the 2019 review

Table 4.1: Summary of amendments to schedule 5.2 since NER version 129

Rule change	Summary of relevant amendments	Affected clauses in schedule 5.2
<u>Efficient management of system strength on the power system</u> Rule 2021	<ul style="list-style-type: none"> Created a new short circuit ratio access standard to require plant to be capable of operating stably and remaining connected at a short circuit ratio of 3.0 or lower. Created a new voltage phase angle shift access standard that requires that any vector shift protection elements must not operate for phase angle changes of less than 20 degrees. 	Created new clauses S5.2.5.15 and S5.2.5.16 (NER version 174)
<u>Integrating energy storage systems into the NEM</u> Rule 2021	<ul style="list-style-type: none"> Created a new registration category of Integrated Resource Provider Defined a new plant type, <i>integrated resource system</i>. Made technical clarifications throughout clauses S5.2.5 and S5.2.6 for integrated resource systems. 	Amended clauses S5.2.1, S5.2.2, S5.2.3, S5.2.4, all clauses in S5.2.5, S5.2.6, S5.2.7 and S5.2.8 (NER version 211)
<u>Efficient reactive current access standards for inverter-based resources</u> Rule 2022	<ul style="list-style-type: none"> Reduced the minimum reactive current capability that asynchronous plant must provide (from 2%/ to > 0%/) Relaxed the requirements for rise time to 80 milliseconds and established a commencement time of 40 milliseconds of the response initiating condition. Clarified that active power must recover to 95% of its pre-disturbance level only after the voltage has recovered to remain between 90% and 110% of nominal voltage. Defined <i>maximum continuous current</i> and made other technical clarifications for asynchronous plant. 	Amended clause S5.2.5.5 (NER version 197).
<u>Improving the NEM access standards - Package 1</u> Rule 2025	<ul style="list-style-type: none"> Reduced the voltage range for full reactive power capability, clarified and amended capability requirements considering temperature derating, and clarified requirements when units are out of service (S5.2.5.1) Allowed the negotiation of measuring over-voltage requirements at the closest 66kV node in some circumstances, bounded requirements for over-voltages above 130%, and clarified the meaning of 	Amended clauses S5.2.1, S5.2.2, S5.2.3, S5.2.4, all clauses in S5.2.5, S5.2.6, S5.2.7 and S5.2.8

Rule change	Summary of relevant amendments	Affected clauses in schedule 5.2
	<p>continuous uninterrupted operation (S5.2.5.4)</p> <ul style="list-style-type: none"> Defined the end of a disturbance for multiple fault ride through requirements, allowed disclosure of plant limitations for ride through compliance and relaxed fault ride through requirements for impedance above plant tuning level (S5.2.5.5) Amended requirements for active power recovery after a fault, as well as rise time, settling time, commencement time for reactive current injection (S5.2.5.5A) Limited the application of S5.2.5.7 to synchronous plant only Amended emergency over-frequency response requirements and required that protection settings must maximise capability to remain in operation for abnormal conditions (S5.2.5.8) Added new requirements for instability detection and response (S5.2.5.10) Removed impediments to unit-level voltage control, prioritised stability over speed of responses across a range of typical to highest system impedances, and amended requirements for multiple modes of operation for voltage and reactive power control (S5.2.5.13). Amended glossary definitions for <i>continuous uninterrupted operation</i>, <i>rise time</i> and <i>settling time</i>, which appear throughout clause S5.2.5. 	<p>Created new clause S5.2.5.5A</p> <p>Deleted clause S5.2.5.16 (moved to S5.2.5.8)</p> <p>(NER version 234)</p>

Note: This table is not a comprehensive list of all the amendments made to schedule 5.2 from these rule changes. For more information, see each rule's project page, final determination and final rule.

5 Updating the Template to reflect changes in technologies and costs

The AEMC has requested that during this review, the Panel consider whether there have been any changes to technology or cost that should be reflected in the updated Template. Since the Template's conception in 2008 and the most recent review in 2019, the NEM has undergone significant technological transformation. Where the NEM was previously dominated by centrally located synchronous thermal generation, the current electricity system is composed of a mix of this type of plant and geographically dispersed inverter-based plant. This change in technology demands new regimes for monitoring compliance with technical performance standards.

5.1 Technological changes may have changed stakeholders' use the Template

The monitoring, testing and modelling regimes for inverter-based plant compliance are substantially different to those for synchronous plant. To better understand these differences and to reflect them in the updated Template, the Panel is seeking stakeholder feedback on the current testing and compliance regimes listed in the existing Template and their suitability for all technology types.

5.1.1 The current Template is technology neutral

During the 2019 review of the Template, the Panel made the final recommendation to remove any technology bias, including technology specific language.³⁹ The Template should be as technology neutral as possible, with technology specific references only used when they are fundamental to the use of the compliance methods in question.⁴⁰ This resulted in the Panel making several updates to the Template to remove specific references to technologies.

However, as outlined in section 3.1, it may be preferable for the Template to specify any relevant technology-specific testing or monitoring methods that would result in more effective and efficient compliance programs. This is to account for technological differences in plant types and their characteristics.

5.2 The costs of testing and compliance regimes may have significantly changed

The Panel remains cognisant of potential changes in testing costs and compliance requirements since the Template was last updated. As part of this review, it intends to update the Template to ensure it provides clear guidance on effective compliance programs that allow Registered Participants to demonstrate their plants' compliance with its technical standards.

The Panel also considers it essential that these compliance methods remain low-cost for Registered Participants. It will aim to strike an appropriate balance: the methods should be prescriptive and robust enough to demonstrate compliance, but not so onerous or expensive that they impose an unreasonable burden. For example, while a highly prescriptive compliance test may provide strong evidence of compliance, the Panel considers this would not be appropriate if its cost is excessively high.

39 Reliability Panel, Generator Compliance Template Review – 2019, [Final report](#), 19 December 2019, p. 30.

40 Reliability Panel, Generator Compliance Template Review – 2019, [Final report](#), 19 December 2019, p. 30.

Furthermore, there may be differences in cost for various compliance methods. For example, more onerous methods of demonstrating compliance, such as continuous plant monitoring, would incur a higher cost to Registered Participants compared to periodic monitoring.

Question 8: Reflecting changes in technology and cost in the Template

Does the current Template appropriately consider all technology types? If not, how can the Template be amended to better reflect newer technologies?

Have the costs of the compliance methods listed in the Template changed significantly?

What changes, if any, could be made to the Template to reflect updated information on the costs of testing and compliance regimes?

A The current compliance principles

The current Template contains ten compliance principles that should:

1. Assist the Panel with developing the Template and providing a guide for future reviews.
2. Assist Registered Participants with developing and modifying their compliance programs.

The current compliance principles are outlined below:⁴¹

- **Principle 1:** Where plant system performance may be variable with time, as for example with plant protection, control and alarm (PCA) systems, Generators are accountable for managing the functionality and integrity of systems and settings in accordance with the performance standards compliance program.
- **Principle 2:** The corollary of the Principle #1 is that where plant parameters are not subject to variability with time, the compliance regime should be restricted to confirmation that the plant continues to perform as intended with repeat testing when there are reasonable grounds to believe that the plant performance may have changed.
- **Principle 3:** The materiality of the issue must be considered when contemplating a compliance testing regime.
- **Principle 4:** A Generator's active use and implementation of a compliance program that is consistent with the approved template and the Generator's compliance management framework will provide a reasonable assurance of compliance with the Generator's registered performance standards.
- **Principle 5:** The template must therefore support the development of compliance programs which represent "good electricity industry practice". The template should specify the objectives and outcomes to be achieved by the testing or monitoring, and an appropriate test interval. The Generator should exercise diligence and good electricity industry practice to determine the detailed methods and procedures to be employed for its plant.
- **Principle 6:** The compliance testing regime must be efficient, and reflect an equitable balance between risk management and the risk created by the test regime itself.
- **Principle 7:** Where appropriate, analysis of performance during an event or disturbance could be used to demonstrate compliance in lieu of a performance test.
- **Principle 8:** Where compliance to a performance standard cannot be directly tested, the compliance program should include a range of other compliance testing methods to provide reasonable assurance that the performance standard continues to be met.
- **Principle 9:** When developing a compliance program and operating under that program, a Generator can only be reasonably held accountable for the compliance of its plant to its registered performance standards and to equipment settings approved or provided by AEMO and/or the transmission network service provider (TNSP).
- **Principle 10:** Compliance programs should be reviewed and updated periodically.

⁴¹ Reliability Panel, [Template for Generator Compliance Programs](#), 19 December 2019, p.p. 1-2.

B The *Improving the NEM access standards – Package 1 rule* amended the NER’s access standards

The *Access Standards Package 1 rule* amended the technical requirements for generators, integrated resource systems (which includes battery systems), synchronous condensers and HVDC links to connect to the power system. The amendments:⁴²

- aligned technical requirements with best power system performance needs
- better utilise already available plant capability
- remove impediments for connections of grid-forming inverters
- minimise ambiguity and clarify application to different plant technologies.

The final rule also amended the technical requirements to apply them by plant type, rather than by registration category.⁴³ This was to ensure a consistent approach to managing system security for similar types of connecting plant, irrespective of the persons connecting.

- Schedule 5.2 will apply to all generating systems, integrated resource systems and synchronous condenser systems (collectively known as schedule 5.2 plant).
- Schedule 5.3 will apply to all plant that consume electricity from a network, including a distribution network or a source of load within an integrated resource system (collectively known as schedule 5.3 plant).
- Schedule 5.3a will apply to any HVDC system with a power transfer capability of 5 MW or more (known as schedule 5.3a plant).
- The persons to which the obligations apply will be captured by new definitions of Schedule 5.2 Participant, Schedule 5.3 Participant and Schedule 5.3a Participant.

The final rule introduced a suite of reforms to the access standards for generators, integrated resource systems and synchronous condensers to align with best power system performance, streamline the connection process, improve power system resilience and support efficient investment.

42 AEMC, *Improving the NEM access standards - Package 1*, [Rule determination](#), 22 May 2025, p. i.

43 AEMC, *Improving the NEM access standards - Package 1*, [Rule determination](#), 22 May 2025, p. iii.

Glossary

Access standard	Either an automatic access standard or a negotiated access standard for a particular technical requirement, as specified in a schedule of Chapter 5. Note that this is distinct from a plant's <i>performance standard</i> - see definition below.
Distribution network	The apparatus, equipment, plant and buildings (including the connection assets) used to convey and control the conveyance of electricity to consumers from the network and which is not a transmission network.
Distribution network service provider (DNSP)	A person who engages in the activity of owning, controlling, or operating a distribution network.
Load	A connection point (or defined set of connection points) at which electrical power is delivered, or the amount of electrical power delivered at a defined instant at a connection point (or aggregated over a defined set of connection points).
National Electricity Code	The National Electricity Code was replaced by the National Electricity Rules on 1 July 2005.
National electricity market (NEM)	The NEM is a wholesale exchange for the supply of electricity to retailers and consumers. It commenced on 13 December 1998, and now includes Queensland, New South Wales, Australian Capital Territory, Victoria, South Australia, and Tasmania.
National Electricity Law (NEL)	The NEL is contained in a schedule to the National Electricity (South Australia) Act 1996. The NEL is applied as law in each participating jurisdiction of the NEM by the application statutes.
National Electricity Rules (NER)	The NER came into effect on 1 July 2005, replacing the National Electricity Code.
Network	The apparatus, equipment and buildings used to convey and control the conveyance of electricity. This applies to both transmission and distribution networks.
Network service providers	An entity that operates as either a transmission network service provider (TNSP) or a distribution network service provider (DNSP).
Performance standard	A standard of technical performance that a particular plant must comply with, as specified in its connection agreement and/or with the NER. See the NER glossary definition of <i>performance standard</i> for more detailed information.
Power system security	The safe scheduling, operation and control of the power system on a continuous basis.

Schedule 5.2 plant	A production system (either a generating system or an integrated resource system) or a synchronous condenser system, to which some or all of the access standards in schedule 5.2 of the NER applies.
Schedule 5.3 plant	Plant that consumes electricity from a network, including a distribution network and a source of load in an integrated resource system, but excluding schedule 5.2 plant and schedule 5.3a plant, to which some or all of the access standards in schedule 5.3 of the NER applies.
Schedule 5.3a plant	A system comprising high voltage direct current technology with a power transfer capability of 5 MW or more, used to transfer electricity to, from or between one or more alternating current network (or parts of an alternating current network) of a network service provider, to which schedule 5.3a of the NER applies.
Transmission network	The high-voltage transmission assets that transport electricity between generators and distribution networks. Transmission networks do not include connection assets, which form part of a transmission system
Transmission network service provider (TNSP)	An entity that owns operates and/or controls a transmission network.

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
BESS	Battery energy storage systems
CER	Consumer energy resources
Commission	See AEMC
DER	Distributed energy resources
HVDC	High voltage direct current
IRP	Integrated Resource Provider
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NSP	Network service provider
Panel	The Reliability Panel
PCA systems	Protection, control and alarm systems
Rules	See NER
Template	Template for compliance programs
TNSP	Transmission network service provider