



Economic Regulation Authority

Report to the Minister for Energy on the Australian Energy Market Operator's compliance 2023/24

Wholesale Electricity Market Rules
Gas Service Information Rules

23 May 2025

Acknowledgement of Country

At the ERA we value our cultural diversity and respect the traditional custodians of the land and waters on which we live and work.

We acknowledge their continuing connection to culture and community, their traditions and stories. We commit to listening, continuously improving our performance and building a brighter future together.

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Contents

1. Introduction	1
2. Auditor’s conclusion	2
3. Findings	3
3.1.1 WEM audit	3
3.1.2 GSI audit	3
3.1.3 Information Technology audit – GSI and WEM	3
4. Investigations	5

List of appendices

Appendix 1 Independent Assurance Report on AEMO’s Compliance with the WEM Rules and WEM Procedures	6
Appendix 2 Independent Assurance Report on AEMO’s Compliance with the GSI Rules and GSI Procedures	7
Appendix 3 AEMO’s response to the audits	8

1. Introduction

The Economic Regulation Authority is responsible for the compliance and enforcement functions in the Wholesale Electricity Market (WEM) Rules and the Gas Services Information (GSI) Rules.¹ As part of these functions, the ERA must annually provide a report to the Minister for Energy on the Australian Energy Market Operator's (AEMO's) compliance and the results of any investigations of AEMO's compliance with the Rules.

AEMO is required to appoint one or more auditors to conduct an audit of its compliance with the WEM Rules and GSI Rules every year.

AEMO appointed PricewaterhouseCoopers to perform the 2023/24 independent limited assurance engagement.

¹ Wholesale Electricity Market Rules (WA), 1 July 2023, Rule 2.14.5B. Gas Services Information Rules (WA), 1 December 2022, Rule 174(5).

2. Auditor's conclusion

The auditor concluded that AEMO appeared to maintain, in all material respects, internal control procedures for its compliance with the WEM Rules and the GSI Rules.

However, the auditor identified instances of non-compliance with AEMO's IT Standards for access management during 2023/24. The auditor found instances of inconsistent application of IT access management controls. This behaviour presented an increased risk of unauthorised or inappropriate access to systems and data. This non-compliance was rated level one with a medium risk rating.² Maintaining adequate access management controls forms part of AEMO's internal controls with respect to compliance with the WEM and GSI Rules. The auditor therefore qualified its conclusion of AEMO's overall compliance, noting this issue.

The results of the 2023/24 audit are documented in the auditor's independent assurance reports. The audit reports were published on AEMO's website on 18 November 2024.^{3,4}

² Level one non-compliance rating is defined in the audit report as "Evidence of non-compliance with review criteria. These should be addressed as a matter of high priority. (Non-compliance)"

Medium risk rating is defined in the audit report as "Findings which may have a moderate impact on the market operations if they are not addressed within a reasonable timeframe. These findings require management attention with regular ongoing monitoring."

³ AEMO Independent Assurance Report - WEM (2024), ([online](#)).

⁴ AEMO Independent Assurance Report - GSI (2024), ([online](#)).

3. Findings

3.1.1 WEM audit

The audit of AEMO's compliance with the WEM Rules identified 60 new findings, excluding seven information technology findings.

There were 54 non-compliances, of which 53 were rated low risk and one rated medium. Thirty-eight non-compliances were resolved and closed during the audit period.^{5,6} Non-compliances occurred across a range of WEM Rules.

The auditor made five findings of insufficient controls in place, three of which were rated medium risk and two as low risk. Insufficient control findings related to reviewing Market Participants' Standing Data, and a lack of control procedures, documentation and reviews to support obligations.

The auditor identified one control improvement opportunity, which it rated as low risk. The auditor recommended AEMO introduce a process for the Control Room shift handover to ensure all items in the Control Room log are accurate.

Eight low rated non-compliances from previous audits were closed, as well as three findings of insufficient controls in place and one control improvement opportunity. One low risk non-compliance relating to omitted information required by the AEMO Regulatory Reporting Guideline, in AEMO's 2024/25 Western Australian Budget, remains open.

3.1.2 GSI audit

The audit of the GSI Rules identified two low-rated non-compliances and one finding of insufficient controls. One of the non-compliances was resolved during the audit period.

Non-compliances related to not adhering to the AEMO Regulatory Reporting Guideline and not providing notice of a Gas Bulletin Board outage. The auditor also considered that there were insufficient control designs for facility transfers (that is, when a facility is transferred to an alternate operator). Control design for facility transfers was considered insufficient.

Two low risk GSI audit findings remained opened from the 2022/23 audit. One related to omitted information required by the AEMO Regulatory Reporting Guideline, in AEMO's 2024/25 Western Australian Budget. The other related to an insufficient control issue related to an incomplete register of obligations.

3.1.3 Information Technology audit – GSI and WEM

The auditor identified seven IT findings, four of which were rated as medium risk and three as low risk.

Eleven GSI IT findings raised in prior audit periods remain open, six of which were rated medium risk and five as low risk. Findings were related to logical access, change management, physical access and IT operations.

Twelve WEM IT findings raised in prior audits remain open, seven of which were rated medium risk and five as low risk.

⁵ A low risk rating is defined in the audit report as "Findings which may have a minor impact on market operations if they are not addressed in the future. These findings are the responsibility of management with regular monitoring and reporting at staff meetings."

⁶ A medium risk rating is defined in the audit report as "Findings which may have a moderate impact on the market operations if they are not addressed within a reasonable timeframe. These findings require management attention with regular ongoing monitoring."

Eight IT observations from prior years were closed from across AEMO's WEM and GSI obligations.

4. Investigations

In February 2025, the ERA completed investigations into 10 alleged breaches of the WEM and GSI Rules by AEMO. The alleged breaches span 30 October 2022 to 3 October 2024 and relate to non-compliances with financial and budget reporting obligations.

We concluded that AEMO's reports did not include the required statements of financial position and cashflows and, apart from the 2024/25 WA Budget, were not compliant with project-specific risk and expenditure requirements. The breaches did not have direct impact on AEMO's WEM or GSI operations. However, the breaches reduced the transparency of AEMO's financial management practices for its Western Australian operations and made it more challenging for the ERA and market participants to assess the effectiveness and efficiency of AEMO's use of funds.

The ERA found AEMO in breach in each instance. AEMO has accepted that it breached the WEM and GSI rules for each matter.

During the audit period the ERA assessed 120 AEMO breach allegations, related to the WEM Rules in force prior to 1 October 2023. All breaches were assessed as being low risk and subsequently resolved without investigation under Regulation 38(3) of the *Electricity Industry (Electricity System and Market) Regulations*.⁷ Just over 40 per cent of breaches were related to the failure to ensure sufficient Load Following Ancillary Services. This requirement has been superseded by the WEM Dispatch Engine under the amended WEM Rules effective from 1 October 2023.

⁷ Electricity Industry (Electricity System and Market) Regulations 2004 (WA), regulation 38(3), [online](#).

Appendix 1 Independent Assurance Report on AEMO's Compliance with the WEM Rules and WEM Procedures



To: The Board of Directors of AEMO

Independent assurance report to the Board of Directors of the Australian Energy Market Operator Limited (AEMO) for the Wholesale Electricity Market

Scope

In accordance with the terms of our contract dated 14 January 2022, we were engaged by the Australian Energy Market Operator (AEMO) to perform an independent limited assurance engagement for the year ended 30 June 2024, in respect of AEMO's internal control procedures in relation to compliance, in all material aspects, with the Wholesale Electricity Market Rules version 1 July 2023 to version 8 June 2024 (the "WEM Rules"), in the following areas:

- The compliance of AEMO's internal procedures and business processes with the WEM Rules
- AEMO's compliance with the WEM Rules and WEM Procedures
- AEMO's market software systems and processes for software management.

In designing our procedures in relation to AEMO's processes for software management, the criteria used to evaluate compliance was AEMO's IT Standards and Policies relating to Information Technology General Controls (ITGCs).

AEMO management's responsibilities

AEMO management is responsible for:

- a) Identification of the compliance requirements within the WEM Rules
- b) Maintaining an effective internal control structure, including control procedures, to ensure compliance with the WEM Rules
- c) Identification and implementation of controls which will mitigate those risks that prevent the compliance requirements being met and monitoring ongoing compliance
- d) Maintaining information relevant to compliance with the WEM Rules that is free from material misstatement.

Our Independence and quality management

We have complied with the ethical requirements of the Accounting Professional and Ethical Standard Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* relevant to assurance engagements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies Australian Standard on Quality Management ASQM 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Reports and Other Financial Information, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

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Our responsibilities

Our responsibility is to express a limited assurance conclusion based on the procedures we have performed and the evidence we have obtained.

Our engagement has been conducted in accordance with the Australian Standard on Assurance Engagements (ASAE 3000) *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*. That standard requires that we plan and perform this engagement to obtain limited assurance about whether anything has come to our attention to indicate that AEMO's internal control procedures, have not complied, in all material respects, with the WEM Rules.

Where the effectiveness of key controls was used to assess compliance with the WEM Rules, the identification of key controls was performed with reference to applicable AEMO policy or procedure documentation.

The procedures we performed were based on our professional judgement and included:

- inquiry and observation of staff and management to obtain and understanding of the operation of controls
- review of relevant AEMO policies and procedures
- undertaking procedures to evaluate the design effectiveness of key controls
- performing limited sample tests on the operating effectiveness of key controls.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion on compliance with the WEM Rules.

Our procedures did not include any assessment of compliance or controls by market participants other than AEMO. For example, our procedures did not consider:

- ITGCs or application controls over systems that are operated by external organisations
- compliance with Service Level Agreements
- control procedures in place at those agencies not controlled by AEMO, such as Network Operators, Market Generators and Customers
- whether data received by AEMO from external organisations was complete, accurate and valid beyond limited assurance tests of the procedures that AEMO perform over validating the reasonableness of this data.

In addition, ITGCs have been tested on a homogenous basis across AEMO's IT environment, as agreed with AEMO, and therefore it is noted that samples selected for testing may not have been directly selected from the WEM systems.

In designing our procedures in relation to AEMO's market software systems, our procedures were limited to testing of AEMO controls over obtaining third party certifications of the systems. Our scope did not include re-performing or validating the calculations, or certification, of WEM systems such as WEMDE, POMAX Settlements, POMAX Metering, RCM, RTDE, or other market systems.



We accept no responsibility for the adequacy or accuracy of work performed by AEMO or the independent certifiers in relation to system certification. We accept no liability to AEMO, or to any other person, for any part of our review statement that relies on or assumes the adequacy of system certification.

Our procedures focused on AEMO's internal control procedures in relation to compliance with the WEM Rules. We have not performed procedures over the completeness or accuracy of all information published or provided by AEMO.

Refer Appendix A for a summary of findings.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our qualified conclusion.

Use of report

We prepared this report solely for AEMO's use and benefit in accordance with and for the purpose set out in our Master Supplies Agreement (MSA) between PricewaterhouseCoopers and AEMO dated 14 January 2022, and Description of Supplies for Market Audit Services dated 14 January 2022. In doing so, we acted exclusively for AEMO and considered no-one else's interests.

We disclaim any assumption of responsibility, duty or liability:

- to anyone other than AEMO in connection with this report
- to AEMO for the consequences of using or relying on it for a purpose other than that referred to above.

We make no representation concerning the appropriateness of this report for anyone other than AEMO. If anyone other than AEMO chooses to use or rely on it they do so at their own risk.

This disclaimer applies:

- to the maximum extent permitted by law and, without limitation, to liability arising in negligence or under statute
- even if we consent to anyone other than AEMO receiving or using this report.

Inherent limitations

Because of the inherent limitations of an assurance engagement, together with any internal control system, it is possible that fraud, error or non-compliance may occur and not be detected. Further, the internal compliance and control culture has not been reviewed and no view is expressed as to its effectiveness. A limited assurance engagement throughout the year ended 30 June 2024 does not provide assurance on whether compliance with the WEM Rules will continue in the future.

A limited assurance engagement is not designed to detect all instances of non-compliance with the WEM Rules, as it is limited primarily to making enquiries, with management and staff, and applying analytical procedures. The limited assurance conclusion expressed in this report has been formed on the above basis.



Other Information

The information included in Appendix B is presented by AEMO management to provide risk rating details, root cause, recommendations, management responses and timelines for the observed exceptions. Such information has not been subject to the procedures applied by PwC in the assessment of AEMO's internal control procedures in relation to compliance with the WEM Rules and accordingly, we express no opinion on it.

Basis for qualified conclusion

Our procedures identified instances of non-compliance with AEMO's IT Standards for access management throughout the period 1 July 2023 to 30 June 2024. We therefore qualify our conclusion in this regard.

A summary of key exceptions and non-compliance with the applicable AEMO IT Standards is provided below:

Criteria	Finding Summary	Risk Rating	Compliance Rating
<p>AEMO's <i>Identity Access Control and Authentication Security Standard</i></p>	<p>Instances where AEMO's IT access management controls were not applied in line with AEMO's Identity Access Control and Authentication Security Standard.</p> <p>Our procedures have identified instances where AEMO's IT access management controls were performed inconsistently with respect to AEMO's IT Standards.</p> <p>The effect of non-compliance with IT policies is an increased risk of unauthorised or inappropriate access to systems and data, including reports, automated calculations and reconciliations, and interfaces, which form part of AEMO's internal controls relation to compliance with the WEM Rules.</p>	<p>Medium</p>	<p>Level 1</p>



Qualified conclusion

Based on the procedures performed and evidence obtained, except for the matter noted in the *Basis for Qualified conclusion* paragraph, nothing has come to our attention that causes us to believe that the Australian Energy Market Operator did not maintain, in all material respects, internal control procedures in relation to compliance with the WEM Rules for the year ended 30 June 2024.

A handwritten signature in cursive script that reads 'PricewaterhouseCoopers'.

PricewaterhouseCoopers

A handwritten signature in cursive script that reads 'N. Burjorjee'.

Nick Burjorjee
Partner

Melbourne
30 October 2024



Appendix A – Summary of Findings

Findings identified through the limited assurance engagement are reported to AEMO management each year.

We have considered materiality when evaluating the effect of identified control weakness on our conclusion. When assessing materiality, we considered qualitative factors as well as quantitative factors, including:

- The purpose of the engagement and specific requirements of the engagement
- The importance of an identified control weakness in relation to the area of activities and the entities overall objectives
- The impact of a centralised function on other parts of the entity
- Public perception and/or interest in the area of activity
- The cost of alternative controls relative to their likely benefit
- The length of time an identified control weakness was in existence
- The frequency and severity of control weaknesses identified in previous engagements.

The table below summarises new findings reported, and findings from prior periods which remained open throughout FY24. This includes findings reported by AEMO management or through our procedures. The items included in the table below comprise of 60 market-related observations, and 19 IT-related observations.

	Critical	High	Medium	Low
Level 1	0	0	7	53
Level 2	0	0	8	9
Level 3	0	0	0	2
Total	0	0	15	64

The table below summarises findings from prior periods which have been closed during FY24. These include 11 market-related observations and 9 IT-related observations.

	Critical	High	Medium	Low
Level 1	0	0	4	10
Level 2	0	0	3	2
Level 3	0	0	0	1
Total	0	0	7	13

All findings in the tables above have been agreed with management and formally reported to AEMO's Finance Risk and Audit Committee.



We have categorised control observations noted according to agreed risk and compliance ratings. The risk ratings applied for each finding are consistent with the likelihood and consequence matrix adopted by AEMO's Finance Risk and Audit Committee.

The ratings have been tailored to reflect the potential impact on the market as follows:

Risk Rating	Definition
Critical	Findings which may have a catastrophic impact on the market operations if they are not addressed immediately and require executive action with regular reporting at Board level.
High	Findings which may have a major impact on the market operations if they are not addressed as a matter of priority. These findings require senior management attention with regular monitoring and reporting at executive and Board meetings.
Medium	Findings which may have a moderate impact on the market operations if they are not addressed within a reasonable timeframe. These findings require management attention with regular ongoing monitoring.
Low	Findings which may have a minor impact on market operations if they are not addressed in the future. These findings are the responsibility of management with regular monitoring and reporting at staff meetings.

Compliance Rating	Definition
Level 1	Evidence of non-compliance with review criteria. These should be addressed as a matter of high priority. (Non-compliance)
Level 2	Issues which could possibly result in non-compliance with review criteria but where no evidence of actual non-compliance was found. However, there is considered to be insufficient formal evidence of controls in place or being actioned in relation to these issues. (Gaps in control design or operating effectiveness)
Level 3	Housekeeping matters and opportunities for improving internal controls and procedures relating to gas market procedures. (Control improvement opportunities)

Appendix B – Summary of Observations & Management Comments

The following table provides a summary of issues against compliance with the WEM Rules. It is presented by AEMO's management to the Economic Regulation Authority Western Australia (ERA). Comments provided by AEMO management in response to the observations are not included within the scope of PwC's report and have not been subjected to the procedures applied by PwC in the assessment of AEMO's compliance with the WEM Rules.

The detailed findings in relation to the Wholesale Electricity Market (WEM) are shown below, split between findings from the current review period (PwC reported and Management reported) and a status update of findings reported during the prior year review.

Appendix B.1 – Wholesale Electricity Market – Findings reported by PwC – 1 July 2023 to 30 June 2024

No	Issue type & Obligation	Finding and implication	Compliance & Risk Rating	Recommendation	Management Comments / Implementation Status
24 WEM 1	<p>Issue Type</p> <p>Control design issue reported by PwC</p> <p>Obligation</p> <p>WEM Rules 2.36.1(d)</p>	<p>AEMO does not have a framework in place to determine when system certification is required.</p> <p>In accordance with clause 2.36.1(d) of the WEM Rules, where AEMO uses software systems to perform calculations of quantities, prices or amounts defined under these WEM Rules, AEMO must ensure that any versions of the software used by AEMO have been certified as being in compliance with the WEM Rules by an independent auditor.</p> <p>Whilst a number of systems across the WEM have been certified by an independent expert throughout FY24, including for WEM Reform, our review noted that there is no formal framework in place that provides guidance for system certification. Specifically, there is no guidance that details:</p> <ul style="list-style-type: none"> • What scenarios may trigger a system certification, such as: <ul style="list-style-type: none"> ○ Changes in regulatory requirements ○ System changes/upgrades that are material in nature • Who should be involved in assessing whether a system certification is required • Determining the scope / coverage / frequency of certification • The implementation and monitoring of mitigating controls if suggested by the independent expert • Documentation requirements to support traceability of system certification determinations. <p>Review noted that the Network Risk Calculation Module (which is part of the WEM Dispatch Engine) had not been certified. Management indicated that underlying calculations were certified as part of the WEM Dispatch Engine, however the Network Risk Calculation Module was not considered as part of the certification and is intended to be undertaken as part of the next round of certifications. However, this approach / schedule and rationale for exclusion was not formally documented.</p> <p>Implication</p> <p>Without a defined framework in place that defines the processes to be followed for system certification, there is increased risk that systems may not be certified appropriately when required, which may have an adverse impact on the operation of the power system and market. Furthermore, where documentation is not maintained to support an assessment for system certification requirements, there is limited traceability to support the reasoning for when a system certification is not obtained for a system change or upgrade.</p>	<p>Compliance Rating:</p> <p>Level 2</p> <p>Risk Rating:</p> <p>Medium</p> <p>(Likelihood: Unlikely; Consequence: Major)</p>	<p>Management should:</p> <ol style="list-style-type: none"> 1. Develop a framework to support system certification. This should include guidance on: <ul style="list-style-type: none"> • Scenarios that may trigger a system certification • Roles and responsibilities • Scope and coverage of certifications (including frequency) • Outcomes of certification including responsibility for addressing actions • Documentation requirements. 2. Obtain certification for the Network Risk Calculation Module. 	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <p>30 June 2025</p>

No	Issue type & Obligation	Finding and implication	Compliance & Risk Rating	Recommendation	Management Comments / Implementation Status
24 WEM 2	<p>Issue Type Control design issue reported by PwC</p> <p>Obligation WEM Rules: Multiple</p>	<p>There are instances where AEMO's key control procedures to support compliance with market obligations have not been formally defined and documented in the compliance obligation register</p> <p>The WEM Rules detail the obligations and function of AEMO (amongst other bodies) for the operation of the market. There are approximately 954 'AEMO must' obligations which are considered as part of the Market Audit. Each respective business unit is responsible for maintaining their obligations within the central WEM register, which includes impact assessment of the obligations, responsible owners, and key control procedures to support compliance.</p> <p>Review of the obligation register as at June 2024 noted 574 (60%) obligations were mapped to a procedure document; however, the specific control activity was not clearly documented. This included 48 'major' impact and 304 'moderate' impact obligations. In addition, control frequency was not documented for 93 (10%) obligations.</p> <p>It is acknowledged that as a result of WEM Reform, a large program of work has been undertaken to update the compliance obligation register, and management recognise that this is a continuing work in progress to improve and uplift documentation captured within.</p> <p>Implication</p> <p>Where key control activities and their respective attributes to support obligations are not fully documented, there is reduced traceability to understand whether controls are adequately designed or performed in line with management objectives. This may impact AEMO's ability to monitor, assess and report on the compliance status of obligations and result in instances of non-compliance not being identified and reported in a timely manner. This may have a legal, reputational and financial impact to AEMO in the event of non-compliance.</p>	<p>Compliance Rating: Level 2</p> <p>Risk Rating: Medium</p> <p>(Likelihood: Unlikely; Consequence: Moderate)</p>	<p>It is recognised that management have a broader program of work across AEMO to uplift risk and compliance related information including the implementation of a new GRC system. As part of this program of work, management should:</p> <p>1. Review and update key control descriptions to ensure they adequately describe activities performed to support compliance with obligations.</p>	<p>Management Response AEMO accepts this finding and recommendation.</p> <p>Implementation Date 30 June 2025</p>
24 WEM 3	<p>Issue Type Control design issue identified by PwC</p> <p>Obligation WEM Rules 2.34.1</p>	<p>AEMO should periodically review changes to Market Participant's standing data within WEMS to ensure that changes are valid and are processed in a complete and accurate manner</p> <p>In accordance with clause 2.34.1 of the WEM Rules, AEMO must maintain a record of Standing Data for Rule Participants. This data varies based on the type of Rule Participant (e.g. scheduled generator, non-dispatchable load, etc). Standing data includes information such as (but not limited to) the maximum Loss Factor adjusted quantity of energy that could be consumed during a Trading Interval; total nameplate capacity; and system size.</p> <p>All Standing Data is maintained in the WEMS application by AEMO, and any changes to Standing Data are required to be submitted by the Rule Participant via WEMS. The 'Standing Data' work instruction details the process to be performed following a Standing Data change request including who the Analyst must consult with for each type of Standing Data change request.</p> <p>Standing Data change requests are required to be reviewed by an Analyst to confirm all information complete and accurate. This may include consultation with other stakeholders (e.g. Reserve Capacity, Operational Planning & Forecasting, Western Power) dependent on the type of change. Following determination that the change is appropriate, the change request is required to be approved by the Manager, WA Energy Market Management, before being processed in WEMS.</p> <p>Review noted:</p> <ul style="list-style-type: none"> There is no system control to prevent Standing Data requests being processed within WEMS. Reliance is placed upon the Analyst to ensure email approval has been obtained prior to the change being processed. While Manager approval is required prior to a change being processed, there is no periodic review of Standing Data changes to ensure that all standing data changes are valid and have been processed in a complete and accurate manner. 	<p>Compliance Rating: Level 2</p> <p>Risk Rating: Medium</p> <p>(Likelihood: Unlikely; Consequence: Moderate)</p>	<p>1. Management should review the process in place for reviewing and approving standing data change requests made by market participants. This should include ensuring manager review is worthwhile and impactful, and there is no duplication of effort (with a specific focus on both the analyst's role and the manager's role). Once this review is performed, action 2 or action 3 should be followed.</p> <p>2. If it is determined by management to keep the manager review in place, re-instate the periodic (e.g. monthly) independent review of Standing Data changes made to ensure changes are valid and have been processed in a complete and accurate manner. Evidence of this periodic review should be maintained.</p>	<p>Management Response AEMO accepts this finding and recommendation.</p> <p>Implementation Date 30 April 2025</p>

No	Issue type & Obligation	Finding and implication	Compliance & Risk Rating	Recommendation	Management Comments / Implementation Status
		<p>This observation was previously raised in FY22 (22 WEM 3). While a monthly review of Standing Data changes processed within WEMS was implemented, management indicated this is no longer being performed due to a change in personnel following structural changes post WEM Reform.</p> <p>Implication</p> <p>Without a formal process to periodically review changes to Standing Data, there is increased risk of Standing Data being accepted without appropriate review, leading to incorrect standing data in WEMS. This could result in an adverse operational and/or financial impact to market participants.</p>		3. If it is determined by management to remove the manager review step, ensure that there is sufficient approval and oversight (as needed) to accepting or rejecting Market Participant standing data change requests. The procedure should be updated to reflect any changes to the process.	
24 WEM 4	<p>Issue Type Non-compliance reported by PwC</p> <p>Obligation WEM Rules 2.16.3(a)</p>	<p>AEMO do not have a formalised data dictionary in place to support the Market Surveillance Data Catalogue</p> <p>In accordance with clause 2.16.2 of the WEM Rules, AEMO must develop a Market Surveillance Data Catalogue, which identifies data to be compiled concerning the market. AEMO are required to collect and provide access to this data to the Coordinator and Economic Regulatory Authority (ERA). Further, clause 2.16.3 of the WEM Rules requires AEMO to develop, maintain, and provide access to a data dictionary for the data items in the Market Surveillance Data Catalogue contained in AEMO's WEM systems. The data dictionary must:</p> <ul style="list-style-type: none"> Contain sufficient information to enable a reasonable person to understand and locate the data items contained in AEMO's WEM systems; Define all data items, including a cross reference to the relevant WEM Rules under which the data is produced or exchanged; Where applicable, provide details of any preprocessing or analysis applied to data items; and Where applicable, provide a means of identifying any revisions of data items and the timing of any such revisions; <p>Review noted that AEMO do not currently have a finalised data dictionary in place. Management confirmed that there is ongoing consultation with the Coordinator and ERA to refine the draft data dictionary in a suitable format, however at the time of fieldwork, these discussions were still underway.</p> <p>Implication</p> <p>Where there is no data dictionary in place, there is increased difficulty for both the Coordinator and ERA to locate specific market data that is contained in AEMO's WEM Systems, which may be required to support investigations and other regulatory activities performed.</p>	<p>Compliance Rating: Level 1</p> <p>Risk Rating: Low (Likelihood: Unlikely; Consequence: Minor)</p>	<p>Management have developed a draft data dictionary and have commenced consultation with the Coordinator and the ERA to finalise the draft.</p> <p>Management should continue to progress and finalise the data dictionary.</p>	<p>Management Response AEMO accepts this finding and recommendation.</p> <p>Implementation Date 30 November 2024</p>
24 WEM 5	<p>Issue Type Non-compliance reported by PwC</p> <p>Obligation WEM Rule 4.2.7</p>	<p>The peer review of changes to the syntax used to generate the Expression of Interest Summary Report and independent recalculation was not completed in a timely manner</p> <p>The Reserve Capacity Expression of Interest (EOI) is established for a market participant to notify AEMO of the amount of new Energy Producing System and Demand Side Programme capacity they intend to make available in the Capacity Year to which the EOI relates. It is noted that this process is not mandatory for Market Participants to submit EOIs to AEMO.</p> <p>In accordance with clause 4.2.7 of the WEM Rules, AEMO must publish an EOI summary report, which provides a summary of the EOI received for the respective Capacity Year. The EOI summary report is prepared based on a information contained in a series of spreadsheets submitted by market participants. This was published in FY24 in accordance with the timelines required by the WEM Rules.</p> <p>A set of Python Instructions (i.e. syntax) was developed by the Reserve Capacity team in FY24 to extract key information from spreadsheets submitted by Market Participants and to generate the figures that are</p>	<p>Compliance Rating: Level 1</p> <p>Risk Rating: Low (Likelihood: Unlikely; Consequence: Minor)</p>	<p>Management should review internal timelines to ensure sufficient time is allocated to peer review and approvals to be obtained.</p>	<p>Management Response AEMO accepts the finding and recommendation.</p> <p>Implementation Date 30 January 2025</p>

No	Issue type & Obligation	Finding and implication	Compliance & Risk Rating	Recommendation	Management Comments / Implementation Status
		<p>presented within the EOI Summary Report.</p> <p>Prior to generating the report, a peer review is performed to validate that any changes to the syntax were appropriate in nature, as well as to independently recalculate / validate the figures presented.</p> <p>Review noted that whilst evidence of these activities were maintained within emails, immaterial discrepancies were still being investigated (and ultimately identified) one business day after the report was published. Management indicated that the correct figures were communicated to Western Power.</p> <p>It is acknowledged that prior to the EOI Summary Report being published on the AEMO website, the Manager Capacity Market Investment and Legal (if needed) will approve the report.</p> <p>Implication</p> <p>Without a timely peer review process to validate that information contained in the EOI summary report is complete and accurate, there are risks of errors in market publications.</p>			
24 WEM 6	<p>Issue Type</p> <p>Non-compliance reported by PwC</p> <p>Obligation</p> <p>WEM Rules 3.17.1, 3.17.4, 3.17.6</p>	<p>The Low Reserve Condition Declaration Procedure has not yet been updated, requiring the Pre-WEM Lack of Reserve framework to be used in practice to declare instances of insufficient capacity to meet demand</p> <p>In accordance with WEM Rule 3.17.1, AEMO may declare a Low Reserve Condition in accordance with the Low Reserve Condition Declaration Procedure (LRCD Procedure), when there is a risk of:</p> <ul style="list-style-type: none"> Insufficient capacity to meet expected energy demand; Load shedding in order to maintain Power System Security; or An Essential System Service shortfall that compromises AEMO's ability to maintain Power System Security or Power System Reliability. <p>As identified and reported by management (Ref 891), AEMO had not developed the LRCD Procedure by 1 October 2023, as it relies on the completion of upstream WEM-Reform projects including ST/MT PASA, and Reliability Standard Implementation.</p> <p>Consequently, AEMO have applied the principles and requirements from the Lack of Reserve Framework (i.e. the pre-WEM Reform framework) to guide the declaration and remediation actions in the instance of supply and demand imbalances.</p> <p>Throughout the WEM Reform period (1 October 2023 to 30 June 2024), there have been 33 instances of a Lack of Reserve being declared by AEMO, however none have resulted in load shedding (or other significant market events).</p> <p>Implication</p> <p>While management has adopted the previous Lack of Reserve Framework to address Low Reserve Conditions, the failure to implement the processes as per the LRCD Procedure represents a technical non-compliance with the Rule requirements. It is acknowledged that no Lack of Reserve conditions have resulted in load shedding scenarios for the period under review.</p>	<p>Compliance Rating:</p> <p>Level 1</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Unlikely; Consequence: Minor)</p>	<p>Management should:</p> <ol style="list-style-type: none"> Formalise the LRCD Procedure. Ensure any processes to manage supply and demand imbalances are reviewed and updated (where required) to meet the requirements of the LRCD Procedure. 	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <p>30 June 2025</p>
24 WEM 7	<p>Issue Type</p> <p>Control design issue reported by PwC</p> <p>Obligation</p> <p>WEM Rule 1.41.7</p>	<p>There is no peer review or approval performed prior to approving a Generator Monitoring Plan</p> <p>A Market Participant that is responsible for a Transmission Connected Generating System must develop a Generator Monitoring Plan (GMP) in accordance with the GMP Requirements and submit the proposed GMP to AEMO for approval.</p> <p>GMPs submitted to AEMO are reviewed by the System Engineering team, who will validate that the GMP Template has been populated in line with the GMP Requirements which are detailed in the WEM Procedure: GPS Compliance Tests and Generator Monitoring Plans. However, no peer review or</p>	<p>Compliance Rating:</p> <p>Level 2</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Unlikely;</p>	<p>Management should incorporate a risk-based approach to peer reviewing or approving prior to a GMP outcome being communicated to a market participant. This should include consideration to (but not limited to):</p>	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <p>30 September 2024</p>

No	Issue type & Obligation	Finding and implication	Compliance & Risk Rating	Recommendation	Management Comments / Implementation Status
		<p>approval is performed to validate the decision to approve or reject the Plan. A total 22 GMPs were submitted in the FY24 period.</p> <p>Management has indicated that where a junior engineer will review the GMP submission, this will be peer reviewed by a senior engineer, however this review is not documented.</p> <p>Implication</p> <p>Without a formal peer review or approval process to validate decisions made for Generator Monitoring Plans, there is an increased risk of a GMP outcome being approved or rejected in error. This may result in an adverse reputational and/or operational impact in the event incorrect GMP outcomes are made.</p>	Consequence: Minor)	<ul style="list-style-type: none"> Complex areas within the GMP that require secondary review/approval Specific systems that are deemed higher risk Individuals that undertake the GMP assessment (e.g. junior engineers) <p>Evidence of this step should be maintained to support traceability. This process should be reflected and documented in the applicable work instruction.</p>	
24 WEM 8	<p>Issue Type</p> <p>Control design issue reported by PwC</p> <p>Obligation</p> <p>WEM Rules 2.34A.4</p>	<p>The Manager approval of FCESS Accreditation applications is not formally documented</p> <p>A Participant may apply to AEMO for accreditation of a Facility to provide one or more Frequency Co-optimised Essential System Services (FCESS). The Participant must lodge an application in the format detailed in the Accreditation Form on the WEM Website, which will be reviewed by AEMO to evaluate the Facility's proposed FCESS accreditation parameters and any available evidence of its ability to meet its Performance Requirements.</p> <p>Where AEMO determines that a Facility is capable of meeting the relevant Performance Requirements for a relevant FCESS, AEMO accepts that application and notifies the Participant of the results of its determination, including all accreditation parameters for which the Facility may be accredited.</p> <p>FCESS Accreditation applications are required to be reviewed by an engineer within the Systems Planning team, before being approved by the Manager, Systems Engineering. The determination is made via a Python tool, and results are reviewed by the manager prior to communicating the outcome to the Market Participant, however, evidence of this approval is not formally documented / maintained. Management indicated this is due to Manager review typically being performed in real-time (i.e. in a call or in-person), and will also be discussed as part of a weekly standing ESS Accreditation meeting. A total 10 FCESS Accreditation applications were submitted in the FY24 period.</p> <p>Implication</p> <p>Without formal evidence of review, there is reduced ability to demonstrate how FCESS Accreditation determination has been made. This may be important in the instance where a regulator (or other third party) requires AEMO provide the reasoning for determinations made in respect to FCESS Accreditations.</p>	<p>Compliance Rating:</p> <p>Level 2</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Unlikely; Consequence: Minor)</p>	<p>Management should incorporate a risk-based approach to peer reviewing or approving prior to a FCESS accreditation outcome being communicated to a market participant. This should include consideration to (but not limited to):</p> <ul style="list-style-type: none"> Complex areas within the Accreditation that require secondary review/approval Specific facilities that are deemed higher risk Individuals that undertake the Accreditation assessment (e.g. junior engineers) <p>Evidence of this step should be maintained to support traceability. This process should be reflected and documented in the applicable work instruction.</p>	<p>Management Response</p> <p>AEMO accepts the finding and recommendation.</p> <p>Implementation Date</p> <p>30 September 2024</p>
24 WEM 9	<p>Issue Type</p> <p>Control Improvement Opportunity identified by PwC</p> <p>Obligation</p> <p>WEM Rules Multiple</p>	<p>AEMO's shift handover procedures could be improved to include a requirement to confirm that the Control Room Log has been reviewed for completeness</p> <p>The WEMDE Control Room Log is used to maintain a register of key events that occur within the control room. This includes a combination of automated entries (such as alarms and outages) from other systems, but also requires updates from control room operators where certain activities are undertaken manually.</p> <p>Entries within the Control Room Log may be used and/or reviewed to support monitoring and reporting of market events and trends, and help to support investigations of incidents that occur, which may be requested by external parties, and help to support continuous improvement of control room operators (i.e.</p>	<p>Compliance Rating:</p> <p>Level 3</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Unlikely; Consequence: Minor)</p>	<p>Management should introduce a process within the shift handover procedures to ensure all items captured within the WEM Control Room Log are accurate and complete in nature.</p>	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <p>30 November 2024</p>

No	Issue type & Obligation	Finding and implication	Compliance & Risk Rating	Recommendation	Management Comments / Implementation Status
		<p>training, processes, etc).</p> <p>Walkthrough and discussion with management noted that as part of the shift handover procedures, there is currently no process for operators to confirm that the WEM Control Room Log has been updated to all known events. This process is of heightened importance in scenarios where manual responses by the control room are required to be logged in real time.</p> <p>Implication</p> <p>Where the WEM Control Room Log is not reviewed to support completeness, there is increased risk that monitoring, reporting and investigating of market events and control room actions may be undertaken based on inaccurate and incomplete data. This may have an adverse impact on internal and external parties that rely on this information, as well as limiting continuous improvement within the control room.</p>			

Appendix B.2 – Wholesale Electricity Market – Findings reported by Management – 1 July 2023 to 30 June 2024

AEMO's Risk & Compliance team is responsible for verifying the status of non-compliances reported by Management to ensure that remediation actions have been implemented and closed. All Management identified non-compliances are reported by Risk & Compliance to the FRAC on a quarterly basis. For Management reported findings, PwC have leveraged the information provided in the compliance breach forms and the status per Management representation.

The following table is a summary of Management identified non-compliances reported to the FRAC:

No.	Obligation	Finding	Compliance Rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
24 WEM 10	WEM Rule 7.11.5(g)	AEMO did not issue a Dispatch Advisory for expected Out of Merit dispatch.	Level 1	Low	Yes	860	Closed
24 WEM 11	WEM Rule 2.22A.8	AEMO's published annual report for FY23 did not adhere to the new ERA Guidelines.	Level 1	Low	Yes	871	Open - Overdue
24 WEM 12	WEM Rule 1.56.2	AEMO did not publish a list of activities related to the transition to the new market in a Transition Schedule by 30th June 2023.	Level 1	Low	Yes	872	Closed
24 WEM 13	WEM Rule 3.7.30	AEMO did not develop, maintain and publish a standard form contract for the provision of a System Restart Service, including undertaking stakeholder consultation prior.	Level 1	Low	Yes	879	Open
24 WEM 14	WEM Rule 6.3B.1B	An internal AEMO system failure resulted in Participant Standing Submissions with quantities above the Maximum Supply Capability not being curtailed, resulting in failed Standing Conversion for some participants.	Level 1	Low	Yes	880	Closed
24 WEM 15	WEM Rule 7.11C.2	AEMO did not meet timing requirements under WEM Rule 7.11C.2 for Trading Day 01/10/2023.	Level 1	Low	Yes	882	Open
24 WEM 16	WEM Rule 7.10.12, 7.10.14	Fixed ramp rates were applied for all semi-scheduled facilities from Go-Live without receiving an application if the facility could not meet linear ramping requirements.	Level 1	Low	Yes	883	Closed
24 WEM 17	WEM Rule 7.13.1EA(e)	The Trading Day Report which included the Energy Uplift Price and Uplift Payment Mispricing Trigger was not published on time on 3 October 2023.	Level 1	Low	Yes	884	Closed
24 WEM 18	WEM Rule 7.13.1EA(e)	The Trading Day Report which included the Energy Uplift Price and Uplift Payment Mispricing Trigger was not published on time on 4 October 2023.	Level 1	Low	Yes	885	Closed
24 WEM 19	WEM Rule 3.16.8	MT PASA report was not published on time.	Level 1	Low	Yes	886	Open
24 WEM 20	WEM Rule Appendix 5	An AEMO implementation error resulted in the IRCR for Facilities with more than one NMI not being assigned to the relevant Market Participant.	Level 1	Low	Yes	887	Closed
24 WEM 21	WEM Rule 2.27B.3(a)	The Constraints Library was published on AEMO's website 6 days late.	Level 1	Low	Yes	888	Closed
24 WEM 22	Multiple	AEMO failed to develop multiple WEM Procedures by 1 October 2023.	Level 1	Low	Yes	889	Open
24 WEM 23	WEM Rule 6.3A.3(h), 6.3A.5(c)(iii)	The Short Term Energy Market Reserve Capacity Obligation Quantity failed to calculate by 08:30 for Trading Day 7 October 2023.	Level 1	Low	Yes	896	Closed
24 WEM 24	WEM Rule 6.3A.5(b)	AEMO did not publish Capacity Adjusted Forced Outage and Capacity Adjusted Planned Outage Quantities for each Trading and Dispatch Interval in the STEM Submission Information Window on 30 September 2023 and 1 October 2023.	Level 1	Low	Yes	897	Closed

No.	Obligation	Finding	Compliance Rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
24 WEM 25	WEM Rule 2.27B.8(b)	AEMO did not issue email notifications to Market Participants when changes were made to the Constraints Library.	Level 1	Low	Yes	904	Closed
24 WEM 26	WEM Rule 9.3.1	AEMO delayed the Settlement Statement Date, Invoicing Date, and Settlement Date for the trading weeks of 1 October 2023 and 8 October 2023.	Level 1	Low	Yes	908	Closed
24 WEM 27	WEM Rule Appendix 2A Clause 5.1(a)	AEMO calculated the Largest Network Risk differently to the wording in the rules, to maintain the intent of the Appendix.	Level 1	Low	Yes	909	Open
24 WEM 28	WEM Rule Chapter 11	AEMO incorrectly considered facility generation when calculating Network Risk.	Level 1	Low	Yes	910	Open
24 WEM 29	WEM Rule 7.11.5(i)	AEMO did not issue a Market Advisory for a direction issued.	Level 1	Low	Yes	913	Open
24 WEM 30	WEM Rule 2.36.1	AEMO calculated prices prior to obtaining the latest certification of WEMDE.	Level 1	Low	Yes	914	Open
24 WEM 31	WEM Rule Appendix 5A, Steps 2 & 3	For Trading Months of October 2017 to September 2023, a system error resulted in the IRCR for some NMIs being incorrectly calculated using the 4 Peak SWIS Trading Intervals instead of using the 12 Peak SWIS Trading Intervals.	Level 1	Low	Yes	917	Closed
24 WEM 32	WEM Rule 9.19.1(b)	AEMO did not provide the adjusted Non-STEM Settlement Statements to Rule Participants in accordance with the timeline specified under clause 9.16.4 in respect of the relevant Adjustment Process.	Level 1	Low	Yes	918	Closed
24 WEM 33	WEM Procedure: Prudential Requirements, paragraph 6.5.3	AEMO did not update the prudential risk report in the WEMS MPI on multiple occasions.	Level 1	Low	Yes	919	Closed
24 WEM 34	WEM Rule 10.6.1 (i)	AEMO did not publish information on payments for Non-Cooptimsed Essential System Services.	Level 1	Low	Yes	922	Closed
24 WEM 35	WEM Rule 10.6.1 (h), 5.9.2	AEMO did not calculate and publish information on dispatch of Western Power-procured Non-Cooptimsed Essential System Services on Western Power's behalf for 1 November 2023 and 2 November 2023.	Level 1	Low	Yes	923	Closed
24 WEM 36	WEM Rule 2.34A.4	AEMO responded 6 days late for RoCoF Ride-Through Capability accreditation of one Market Participant.	Level 1	Low	Yes	924	Closed
24 WEM 37	WEM Rule 2.27B.3(a)	The Constraints Library did not contain all information when published to the AEMO website.	Level 1	Low	Yes	927	Closed
24 WEM 38	WEM Rule 1.41.5	AEMO responded 3 days late to a Generator Monitoring Plan Market Participant extension request.	Level 1	Low	Yes	930	Closed
24 WEM 39	WEM Rule 7.11.5(j)	AEMO did not issue a Market Advisory for the SWIS deviating from the Normal Operating Frequency Band.	Level 1	Low	Yes	937	Open
24 WEM 40	WEM Rule 7.11C.7	AEMO did not produce Dispatch and Pre-Dispatch schedules on 13 January 2024.	Level 1	Low	Yes	940	Closed
24 WEM 41	WEM Procedure: Outages, paragraph 3.1.2(c)	AEMO did not provide final approval for 44 Outage Plans within 10 business days.	Level 1	Low	Yes	941	Closed
24 WEM 42	WEM Rule 4.20.5A(b)	AEMO did not publish the accurate determination of whether the Reserve Capacity Requirement had been met for the 2024-2025 Capacity Year by the time specified by the rules.	Level 1	Low	Yes	942	Closed

No.	Obligation	Finding	Compliance Rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
24 WEM 43	WEM Rule 4.20.5A(a)	AEMO incorrectly determined whether the Reserve Capacity Requirement had been met for the 2024-2025 Reserve Capacity year.	Level 1	Low	Yes	943	Closed
24 WEM 44	WEM Rule 4.20.5A(b)	AEMO did not publish the accurate determination of whether the Reserve Capacity Requirement had been met for the 2025-2026 Capacity Year by the time specified.	Level 1	Low	Yes	944	Closed
24 WEM 45	WEM Rule 4.20.5A(a)	AEMO incorrectly determined whether the Reserve Capacity Requirement had been met for the 2025-2026 Reserve Capacity year.	Level 1	Low	Yes	945	Closed
24 WEM 46	WEM Rule 7.14	WEMDE was incorrectly including discretionary constraints to calculate Congestion Rental.	Level 1	Low	Yes	946	Open
24 WEM 47	WEM Rule 6.3B.2	AEMO did not correctly apply a STEM submission adjustment for a Market Participant.	Level 1	Low	Yes	947	Closed
24 WEM 48	WEM Rule 4.25.2B(b)(i)	AEMO conducted a Reserve Capacity Test of a Facility via observation, although the verification-by-observation period had ended.	Level 1	Low	Yes	952	Closed
24 WEM 49	WEM Rule 4.1.23B	The 4 Peak SWIS Trading Intervals for Trading Month November 2023 were published 9 days prior to the allowed timeframe.	Level 1	Low	Yes	953	Closed
24 WEM 50	WEM Rule 9.1.4	AEMO did not apply the Bank Bill Rate correctly for all adjustment settlement runs between 1 August 2023 and 13 November 2023.	Level 1	Low	Yes	954	Closed
24 WEM 51	WEM Rule 4.28.9, Appendix 5a Step 1	AEMO accepted the Consumption Deviation Application for a facility which incorrectly included maintenance intervals.	Level 1	Low	Yes	955	Closed
24 WEM 52	WEM Rule 4.25.1(c), 4.25.2(b)(iii)	AEMO did not subject a facility to a formal Reserve Capacity Test, given the facility had already demonstrated its capability multiple times during the summer testing period.	Level 1	Low	Yes	957	Open
24 WEM 53	WEM Procedure: ESS Quantities, paragraphs 3.1.4(b), 3.1.6, 3.1.9	AEMO did not publish ESS Quantity information on the AEMO website by 01 October 2023.	Level 1	Low	Yes	959	Closed
24 WEM 54	WEM Procedure: ESS Quantities, paragraph 5.1	Incorrect distribution of Reserve Capacity costs due to a bug in the WEMDE system.	Level 1	Moderate	Yes	960	Closed
24 WEM 55	WEM Rule 2.27B.2(b), 2.27B.3(a)	The Constraints Library was not published to the AEMO website due to referencing the wrong PowerBI report.	Level 1	Low	Yes	961	Closed
24 WEM 56	WEM Rule 2.27.11	AEMO did not publish three new Transmission Loss Factors on AEMO's Loss Factors web page within two Business Days after receiving them from the Network Operator.	Level 1	Low	Yes	974	Closed
24 WEM 57	WEM Rule 3.17.2	No Low Reserve Condition Report was published in accordance with clause 3.17.3.	Level 1	Low	Yes	977	Open
24 WEM 58	WEM Rule 2.22A.7(b) GSI Rule 111A(2)(b)	AEMO's budget published on 28 June 2024 did not include an annual forecast statement of cash flows or a forecast statement of financial position for FY25.	Level 1	Low	Yes	988	Open
24 WEM 59	WEM Rule 10.4.26	AEMO's internal procedure was not followed, resulting in an email being sent omitting to state the Market Information provided is Confidential Information.	Level 1	Low	Yes	990	Closed
24 WEM 60	WEM Rule 10.4.18(a)	AEMO's internal procedure was not followed, resulting in delays to the request for market information being fulfilled.	Level 1	Low	Yes	991	Closed

Appendix B.3 – Wholesale Electricity Market – Summary of prior year findings reported by PwC

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments / Implementation Status	FY24 Status
23 WEM 1	<p>Issue Type Control design issue reported by PwC</p> <p>Obligation WEM Rule 4.24</p>	<p>Procedures for the procurement and settlement of Supplementary Reserve Capacity are not currently formalised</p> <p>As per section 4.24 of the WEM Rules, AEMO will be required to seek SRC if it expects a shortfall in the Reserve Capacity that will be available to the SWIS to maintain power system security and reliability. SRC is procured if a shortfall in available Reserve Capacity is discovered within 6 months of the start of the Capacity Year. The SRC will be procured by AEMO via negotiating directly with, or by calling a tender from, potential suppliers (depending on the timeframe until the expected shortfall).</p> <p>The WEM Rules define specific requirements for Supplementary Reserve Capacity, including:</p> <ul style="list-style-type: none"> • The eligible sources of supplementary capacity; • Activities within the procurement process to be completed by AEMO; • The contents of the standard contract that AEMO may enter into between itself and suppliers of reserve capacity; and • Settlement of Supplementary Reserve Capacity <p>During FY23, SRC was required for the first time since 2008. In September 2022, AEMO called for tenders to obtain the expected shortfall of 174 MW during the period of 1 December 2022 to 31 March 2023.</p> <p>Throughout our review, we identified two areas within the Supplementary Reserve Capacity lifecycle where the documentation of processes undertaken by management can be improved and formalised.</p> <p>Procurement</p> <p>Throughout the time of SRC being procured, an internal procedure within Reserve Capacity titled '3.2.2: Supplementary Reserve Capacity' was in place, however it was in draft form. Discussions with management note that during the calculation and procurement of SRC in FY23, the procedure was not actively referred to due to the fact that it contained insufficient detail and did not reflect current processes required and performed by management.</p> <p>Settlement</p> <p>At the time of SRC being procured and settled, a draft internal work instruction titled 'SRC Settlement' was in place. Management acknowledged that while this work instruction met the minimum requirements for SRC settlement, it was developed with limited experience of SRC settlement, and could be improved based on learnings from FY23, including:</p> <ul style="list-style-type: none"> • Activities prior to contract execution, including development and agreement of contract terms and conditions impacting settlement of SRC; • Validation of settlement amounts for SRC in line with the contract terms and conditions; and • Records management. <p>It is acknowledged that at the time of fieldwork, the Coordinator of Energy was undertaking a review of the Supplementary Reserve Capacity provisions within section 4.24 of the WEM Rules. No instances of non-compliance by AEMO was</p>	<p>Compliance Rating: Level 2</p> <p>Risk Rating: Medium</p> <p>(Likelihood: Unlikely; Consequence: Major)</p>	<p>Procurement</p> <ol style="list-style-type: none"> 1. Management should update and formalise the SRC internal procedure, over the processes for the determination, calculation and procurement of SRC. Management should ensure it includes: <ul style="list-style-type: none"> • key roles and responsibilities; • required reviews and approvals; • communication requirements (including to market participants); and • timelines. <p>Settlement</p> <ol style="list-style-type: none"> 2. Management should update and formalise the SRC Settlement work instruction, over the processes for the settlement of SRC. Management should ensure it includes: <ul style="list-style-type: none"> • Activities expected prior to contract execution; • Settlement validation activities; and • Records management expectations. <p>Any updates to the procedures above, should include consideration of recommendations by the coordinator following their review, and rule changes (expected from 1 July 2023).</p>	<p>Management Response AEMO accepts this finding and recommendation.</p> <p>Implementation Date 30 November 2023</p>	<p>Status: Closed</p> <p>Management have updated and formalised the SRC internal procedure to address this recommendation.</p>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments / Implementation Status	FY24 Status
		<p>identified, with generally positive feedback provided by stakeholders in regards to AEMO's procurement process.</p> <p>Implication</p> <p>Where there is an absence of documented processes to support the procurement and settlement of SRC, there is an increased risk that key processes and controls will not be performed in line with the WEM rule requirements resulting in a non-compliance.</p> <p>Further, in the absence of formalised processes and procedures, there is an increased risk of reduced accountability of stakeholders involved, and key-person dependencies. The likelihood of these risks increase given that management expects increased circumstances where SRC is required in the future, the likelihood of the above risks are increased.</p>				
23 WEM 2	<p>Issue Type</p> <p>Non-compliance reported by PwC Obligation</p> <p>WEM Rules 3.21A.4, 3.21A.9</p>	<p>AEMO approved a Commission Test Plan late due to the delayed submission by a Market Participant</p> <p>Commission Test Plans (CTP) are submitted by Market Participants to AEMO to indicate the planned activities undertaken during the Trading Day to commission a generation system in the SWIS. AEMO will assess and approve the CTP, unless conducting any of the proposed activities to be undertaken at the proposed times would pose a threat to Power System Security or Power System Reliability.</p> <p>In line with WEM Rule 3.21A.9, AEMO must notify a Market Participant if it has approved a Commissioning Test Plan as soon as practicable but in any event no later than 8:00 am on the Scheduling Day for which the Commissioning Test Plan would apply. In addition, Market Participants must use best endeavours to submit to AEMO its Commissioning Test Plan for approval at least 7 Trading Days prior to the start of the Commissioning Test Period in line with WEM Rule 3.21A.4.</p> <p>Sample testing performed across 5 CTPs identified the following CTP that was approved and the Market Participant subsequently notified after 8:00 am on the Scheduling Day.</p> <p>As noted above, MUJA_G7 submitted their Plan 4 days prior to the Trading Day of the Commissioning Test. Following initial review of the CTP, AEMO contacted the Market Participant on 15/09/2022 to request changes to the CTP. The Market Participant provided a revised Plan on 18/09/2022 at 10:28am (Scheduling Day) to which AEMO responded with approval at 12:39pm the same day, which was 4 hours 39 minutes late.</p> <p>Whilst not an exception, sample testing of the five (5) CTPs identified two (2) instances where the MP did not provide a CTP 7 days prior to the Commissioning Test. Discussions with management highlighted that when MPs do not meet the suggested timeline of 7 days (as per WEM Rule 3.21A.4), and due to the level of organisation required by MPs to undertake a Commission Test, AEMO is required to respond within a short turnaround time to meet WEM Rule 3.21A.9.</p>	<p>Compliance Rating:</p> <p>Level 1</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Possible; Consequence: Immaterial)</p>	<p>Management should develop a process to identify when upcoming Commission Test Plans are expected to occur, with consideration to the criteria outlined in WEM Rule 3.21A.2. Once AEMO identifies a potential CTP, they should communicate with the Market Participants and reiterate the importance of achieving (or as close to) the rule requirements under 3.21A.4.</p>	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <p>31 August 2023</p>	<p>Status: Closed</p> <p>From 1 October the WEM Rules and WEM Procedure: Commissioning Tests have been updated and no longer include response timeframes that resulted in this issue. In the interim, AEMO proactively engaged with Market Participants to promote timely communication of any expected CTPs and utilised a work instruction to support compliance with timing requirements under 3.21A.9.</p>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments / Implementation Status	FY24 Status
		<p>Implication</p> <p>Where market participants are unable to provide the CTP in a timely manner to AEMO, this represents a risk of non-compliance with WEM Rule 3.21A.9.</p>				
23 WEM 3	<p>Issue Type</p> <p>Non-compliance reported by PwC</p> <p>Obligation</p> <p>WEM Rules 7.11.6 (c)</p>	<p>AEMO published the incorrect time period for which a Dispatch Advisory was expected to apply</p> <p>Dispatch Advisories are issued by AEMO to inform Market Participants and the Network Operator of impending or current situations that could have impacts to system security. Dispatch Advisories are issued by the control room in real-time, and are required to be undertaken alongside their operational duties.</p> <p>In line with WEM Rules 7.11.6(c), AEMO is required to include the time period for which the Dispatch Advisory is expected to apply within a Dispatch Advisory.</p> <p>Through data analysis undertaken by the engagement team, it was noted that the 'Start Interval' information field, which represents the start time and date of the period for which the Dispatch Advisory is expected to apply, was incorrectly entered by AEMO for one (1) Dispatch Advisory.</p> <p>On 7 June 2023, a Dispatch Advisory (209787) was issued, which indicated a High Risk operating state due to Lack of Reserve 2 conditions. The 'Start Interval' date published was 6 June 2023, instead of 7 June 2023. Discussions with management noted that this incorrect entry was a result of human error.</p> <p>It is acknowledged that AEMO developed a Dispatch Advisory training module in June 2023 to support awareness of the rule obligations, process and requirements when issuing a Dispatch Advisory. This training is due for completion by 30 September 2023.</p> <p>Implication</p> <p>Where AEMO issues Dispatch Advisories that do not align to the correct time period to the expected altered Operating State, AEMO is in non-compliance with WEM Rules 7.11.6(c).</p>	<p>Compliance Rating:</p> <p>Level 1</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Unlikely; Consequence: Immaterial)</p>	<p>Management should reiterate the importance to AEMO PSO that all Dispatch Advisories should be self-reviewed prior to publishing staff for accuracy and completeness in line with 7.11.6 of the WEM Rules.</p>	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <p>30 September 2023</p>	<p>Status: Closed</p> <p>In June 2023 dispatch advisory training was issued which reiterated the importance of correct timeframes associated with Dispatch Advisories. In addition a Market Advisories internal work instruction was developed.</p>
23 WEM 5	<p>Issue Type</p> <p>Control operating issue reported by PwC</p> <p>Obligation</p> <p>WEM Rules (Multiple)</p>	<p>Skills Maintenance and Simulation (SMS) Training has not been completed by two Power System Operations staff</p> <p>Skills Maintenance and Simulator (SMS) Training is assigned to all Power System Operations (PSO) staff to support the effective and efficient operation of the South West Interconnected System (SWIS). Training consists of participation in mock scenarios, in which PSO staff will work together to achieve desired outcomes in response to events such as SCADA failures, shortfalls in reserves, and contingency events.</p> <p>Attendance of SMS Training is tracked and recorded within the SMS Training Attendance Tracker (excel spreadsheet) by the Training Team. Where an employee is unable to attend SMS Training, remediation training is to be assigned to the employee in a timely manner.</p> <p>SMS training was conducted once in the audit period (October 2022), with all PSO staff rostered and required to attend. Through inspection of the SMS Training attendance tracker for the SMS 2-2022 training conducted (Released 18/10/2022, Due 19/12/2022), it was noted that two operators did not complete the SMS training as it was conducted whilst they were on leave.</p>	<p>Compliance Rating:</p> <p>Level 2</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Unlikely; Consequence: Minor)</p>	<ol style="list-style-type: none"> Management should perform remediation activities for the two (2) PSO staff who were absent from SMS Training in a timely manner. Management should define a timeframe in which remediation activities are required to be completed for SMS Training. This should be tracked and monitored against where staff are absent from SMS Training. 	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <ol style="list-style-type: none"> 31 December 2023 30 April 2024 	<p>Status: Closed</p> <p>SMS remediation training was delivered to the two PSO staff members in November 2023.</p>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments / Implementation Status	FY24 Status
		<p>In both cases, discussions with the Training Team have noted that attempts to complete remediation training have been unsuccessful due to rostering issues within the Control Room and conflicts with WEM Reform training.</p> <p>Implication</p> <p>Where remediation activities for PSO staff absent from SMS Training are not completed in a timely manner, there is an increased risk that the PSO skills and competency to operate the SWIS in a safe and reliable manner may be compromised.</p>				
23 WEM 6	<p>Issue Type</p> <p>Control improvement opportunity reported by PwC</p> <p>Obligation</p> <p>Multiple Rules</p>	<p>A critical events and information register should be implemented</p> <p>The Operational Planning and Forecasting, and Power System Operations (PSO) teams are responsible for operating the South West Interconnected System (SWIS) in a secure and reliable manner.</p> <p>To support AEMO's responsibilities in operating the SWIS, there are a number of events and information that staff must consider to support effective decision making. This may include (but is not limited to):</p> <ul style="list-style-type: none"> • Constraints on generators or transmission infrastructure • Forecasting matters or issues • System outages (e.g. SCADA, etc) • Changes in rules or regulations • Commission testing plans or system restart plans to be performed by market participants. <p>There is no centralised source where critical events that have occurred, or information that should be considered by AEMO staff, is captured and available to the relevant AEMO teams.</p> <p>Whilst staff are highly trained to identify items that may impact the operation of the SWIS, reliance is placed on staff to inform themselves of any key matters via inspecting emails or control room logbooks, or conversations with other staff (e.g. shift handover meetings, morning stand-up meetings, etc), which may result in critical events on information factors not being adequately or consistently considered.</p> <p>It is acknowledged that at the time of fieldwork, management had drafted a critical information register, however this had not been finalised and was not yet implemented.</p> <p>Inquiry with management noted that there were no known recent power system incidents directly caused by the absence of a critical events and information register.</p> <p>Implication</p> <p>Where Power System Operations and Planning and Forecasting employees are unaware of current critical events and information, there is an increased risk that staff may not adequately consider factors relevant to the safe and section operation of the SWIS.</p>	<p>Compliance Rating:</p> <p>Level 3</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Unlikely; Consequence: Minor)</p>	<p>Management should develop and implement a register to capture all critical events and information to be shared and updated between the Power System Operations and Planning and Forecasting teams.</p>	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <p>30 April 2024</p>	<p>Status: Closed</p> <p>A confluence page has been developed to track all critical events that occur and respective instructions to manage the critical event. This page is accessible between the Power System Operations and Planning and Forecasting teams.</p>
22 WEM 6	<p>Issue Type</p> <p>Control design</p>	<p>AEMO's key control procedures to support compliance with market obligations have not been formally defined and documented in the compliance obligation register</p>	<p>Compliance Rating</p> <p>Level 2</p>	<p>The Operations, System Design and Transformation, and Market Development teams, in conjunction with</p>	<p>Management Response</p> <p>AEMO accepts the finding and recommendation.</p>	<p>Status: Closed</p> <p>The Pre-WEM Reform register was updated, and a new</p>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments / Implementation Status	FY24 Status
issue reported by PwC Obligation All WEM Rules upon AEMO		<p>The WEM Rules details the obligations and function of AEMO (amongst other bodies) for the operation of the market. There are approximately 950 obligations upon AEMO within the Rules. To manage compliance, each respective business unit is responsible for maintaining an obligations and controls register which includes risk assessment of the obligations, responsible owners, and key control procedures to support compliance. There are four registers including:</p> <ul style="list-style-type: none"> • Systems Management (308 obligations) • Market Operations (428 obligations) • Reserve Capacity (207 obligations) • Risk & Compliance register - an overall register which records obligations and their respective attributes at a section level rather than at an individual (specific) obligation level. <p>Review of obligation registers as at the time of fieldwork (July 2022) noted:</p> <ul style="list-style-type: none"> • All in-scope sections of the Rules were mapped to a responsible obligation owner within the Risk & Compliance register. However, for individual obligations, there were 515 (54%) obligations that were not assigned to an obligation owner (Systems Management and Reserve Capacity). This included 18 'major' and 205 'moderate' obligations. • All in-scope sections are assigned a control owner and risk rating in the Risk & Compliance register. However, there are 207 (22%) individual obligations that were not assigned a control owner or risk rating, all of which are related to Reserve Capacity. • 110 (11%) obligations were not mapped to a corresponding procedure or control to demonstrate how the obligation is managed. This included 17 'moderate' rated obligations. • 593 (62%) obligations were mapped to a procedure document, however the specific control activity was not clearly documented. This was across all three registers, and included 17 'major' and 321 'moderate' rated obligations. Additionally, key control attributes (e.g. control type, IT dependencies, and control frequency) were not documented. <p>It is acknowledged that the Reserve Capacity team subsequently provided an updated obligations and controls matrix that addressed a number of the gaps outlined above.</p> <p>In addition, there is no process in place for self-assessment or independent review to understand the effectiveness of key controls on a periodic basis.</p> <p>Implication</p> <p>Where key control activities and their respective attributes to support obligations are not fully documented, there is reduced traceability to understand whether controls are adequately designed or performed in line with management objectives. This may impact AEMO's ability to monitor, assess and report on the compliance status of obligations and result in instances of non-compliance not being identified and reported in a timely manner. This may have a legal, reputational and financial impact to AEMO in the event of non-compliance.</p>	<p>Risk Rating Medium (Likelihood: Possible; Consequence: Minor)</p>	<p>Risk & Compliance, should undertake an exercise to agree and update the obligations and controls mapping document to accurately reflect management's control activities. This should prioritise higher-risk obligations.</p>	<p>Implementation Date Pre WEM-Reform October 2023 Post WEM-Reform April 2024</p>	<p>register was created for WEM Reform with consideration to ensuring all obligations were identified, considered and assigned to an owner. A new observation has been raised in the FY24 Market Audit, which is specific to the WEM Reform compliance obligation register.</p> <p>The existing registers have been consolidated into a combined WEM obligations and controls register for all teams, with an exercise completed to review and update control owners. Work remains underway to ensure all controls are reviewed and updated. A process for independent review to understand the effectiveness of key controls will be considered post WEM Reform.</p>

Appendix B.4 – Wholesale Electricity Market - Summary of prior period findings reported by Management

No.	Obligation	Finding	Compliance Rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
23 WEM 30	WEM Procedure Reserve Capacity Security, clause 3.5.5	AEMO intentionally breached the WEM Procedure Reserve Capacity Security to execute a legally binding Security Deposit required for Reserve Capacity Security	Level 1	Low	Yes	836	Closed
23 WEM 36	6.16A.1(b)i, 6.16A.2(b)i, 6.16B.1(b)i, 6.16B.2(b)i	AEMO failed to adjust Out of Merit quantities as notified by the Economic Regulation Authority for a Rule Participant.	Level 1	Low	Yes	848	Closed
23 WEM 37	2.22A.7(b)	AEMO issued the FY24 Budget which did not include information required by the Regulatory Reporting Guidelines (an annual forecast statement of cashflows and a forecast statement of financial position).	Level 1	Low	Yes	858	Open - Overdue
23 WEM 38	7.11.5(g)	AEMO did not release a Dispatch Advisory to advise Market Participants of potential or actual Out of Merit Dispatch where one facility received Dispatch Instructions resulting in potential Out of Merit Dispatch for other facilities.	Level 1	Low	Yes	861	Closed
23 WEM 39	7.11.5(g)	AEMO did not release a Dispatch Advisory to advise Market Participants of potential or actual Out of Merit Dispatch where one facility received Dispatch Instructions (on two occasions) resulting in potential Out of Merit Dispatch for other facilities.	Level 1	Low	Yes	862	Closed
23 WEM 40	Appendix 5, Step 1	The Individual Reserve Capacity Requirements (IRCR) calculation, used as part of monthly settlements, has referenced an incorrectly calculated variable, the Total Allocated Capacity Credits (TACC).	Level 1	Low	Yes	863	Closed
23 WEM 41	2.38.7, 2.38.8 & WEM Procedure: Prudential Requirements	AEMO did not review and update the list of entities which meet the Acceptable Credit Criteria on the WEM Website.	Level 1	Low	Yes	866	Closed

Appendix B.5 – Information Technology – Summary of findings

There were 7 new findings, comprising 4 Medium and 3 Low rated Information Technology findings reported by PwC in FY24. In addition, 12 findings raised in prior periods remained open, comprising of 7 Medium and 5 Low rated findings. These findings have the potential to impact a range of markets and systems across AEMO, including the WEM and GSI.

The new findings related to logical access (1 Medium), change management (1 Medium), physical access (1 Medium), and IT operations (1 Medium, 3 Low). No findings were identified regarding program development.

Multiple prior year observations were closed in FY24. This included:

- 2 Information Technology findings raised in FY22.
- 6 Information Technology findings raised in FY23.

Appendix 2 Independent Assurance Report on AEMO's Compliance with the GSI Rules and GSI Procedures



To: The Board of Directors of AEMO

Independent assurance report to the Board of Directors of the Australian Energy Market Operator Limited (AEMO) for the Gas Services Information

Scope

In accordance with the terms of our contract dated 14 January 2022, we were engaged by the Australian Energy Market Operator (AEMO) to perform an independent limited assurance engagement for the year ended 30 June 2024, in respect of AEMO's internal control procedures in relation to compliance, in all material aspects, with the Gas Services Information Rules version 1 December 2022 (the "GSI Rules"), in the following areas:

- The compliance of AEMO's internal procedures and business processes with the Rules
- AEMO's compliance with the Rules and Procedures
- AEMO's software systems for the GBB and the calculation of GSI Fees and processes for software management.

In designing our procedures in relation to AEMO's processes for software management, the criteria used to evaluate compliance was AEMO's IT Standards and Policies relating to Information Technology General Controls (ITGCs).

AEMO management's responsibilities

AEMO management is responsible for:

- (a) Identification of the compliance requirements within the GSI Rules
- (b) Maintaining an effective internal control structure, including control procedures, to ensure compliance with the GSI Rules
- (c) Identification and implementation of controls which will mitigate those risks that prevent the compliance requirements being met and monitoring ongoing compliance
- (d) Maintaining information relevant to compliance with the GSI Rules that is free from material misstatement.

Our Independence and quality management

We have complied with the ethical requirements of the Accounting Professional and Ethical Standard Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* relevant to assurance engagements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies Australian Standard on Quality Management ASQM 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Reports and Other Financial Information, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.



Our responsibilities

Our responsibility is to express a limited assurance conclusion based on the procedures we have performed and the evidence we have obtained.

Our engagement has been conducted in accordance with the Australian Standard on Assurance Engagements (ASAE 3000) *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*. That standard requires that we plan and perform this engagement to obtain limited assurance about whether anything has come to our attention to indicate that AEMO's internal control procedures, have not complied, in all material respects, with the GSI Rules.

Where the effectiveness of key controls was used to assess compliance with the GSI Rules, the identification of key controls was performed with reference to applicable AEMO policy or procedure documentation.

The procedures we performed were based on our professional judgement and included:

- inquiry and observation of staff and management to obtain an understanding of the operation of controls
- review of relevant AEMO policies and procedures
- undertaking procedures to evaluate the design effectiveness of key controls
- performing limited sample tests on the operating effectiveness of key controls.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion on compliance with the GSI Rules.

Our procedures did not include any assessment of compliance or controls by market participants other than AEMO. For example, our procedures did not consider:

- ITGCs or application controls over systems that are operated by external organisations
- compliance with Service Level Agreements
- control procedures in place at those agencies not controlled by AEMO, such as Facility Operators and Gas Shippers
- whether data received by AEMO from external organisations was complete, accurate and valid beyond limited assurance tests of the procedures that AEMO perform over validating the reasonableness of this data.

In designing our procedures in relation to AEMO's software systems for the WA Gas Bulletin Board and the calculation of GSI Fees, our procedures were limited to testing of AEMO controls over obtaining third party certifications of the systems. Our scope did not include re-performing or validating the calculations, or certification, of Gas Services Information systems such as the WA Gas Bulletin Board and GSI Fee Calculation Tool, or other market systems.

We accept no responsibility for the adequacy or accuracy of work performed by AEMO or the independent certifiers in relation to system certification. We accept no liability to AEMO, or to any other person, for any part of our limited assurance conclusion that relies on or assumes the adequacy of system certification.



Our procedures focused on AEMO's internal control procedures in relation to compliance with the GSI Rules. We have not performed procedures over the completeness or accuracy of all information published or provided by AEMO.

Refer Appendix A for a summary of findings.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our qualified conclusion.

Use of report

We prepared this report solely for AEMO's use and benefit in accordance with and for the purpose set out in our Master Supplies Agreement (MSA) between PricewaterhouseCoopers and AEMO dated 14 January 2022, and Description of Supplies for Market Audit Services dated 14 January 2022. In doing so, we acted exclusively for AEMO and considered no-one else's interests.

We disclaim any assumption of responsibility, duty or liability:

- to anyone other than AEMO in connection with this report
- to AEMO for the consequences of using or relying on it for a purpose other than that referred to above.

We make no representation concerning the appropriateness of this report for anyone other than AEMO. If anyone other than AEMO chooses to use or rely on it they do so at their own risk.

This disclaimer applies:

- to the maximum extent permitted by law and, without limitation, to liability arising in negligence or under statute
- even if we consent to anyone other than AEMO receiving or using this report

Inherent limitations

Because of the inherent limitations of an assurance engagement, together with any internal control system, it is possible that fraud, error or non-compliance may occur and not be detected. Further, the internal compliance and control culture has not been reviewed and no view is expressed as to its effectiveness. A limited assurance engagement throughout the specified period does not provide assurance on whether compliance with the GSI Rules will continue in the future.

A limited assurance engagement is not designed to detect all instances of non-compliance with the GSI Rules, as it is limited primarily to making enquiries, with management and staff, and applying analytical procedures. The limited assurance conclusion expressed in this report has been formed on the above basis.

Other information

The information included in Appendix B is presented by AEMO management to provide risk rating details, root cause, recommendations, management responses and timelines for the observed exceptions. Such information has not been subject to the procedures applied by PwC in the assessment of AEMO's internal control procedures in relation to compliance with the GSI Rules and accordingly, we express no conclusion on it.



Basis for qualified conclusion

Our procedures identified instances of non-compliance with AEMO’s IT Standards for access management throughout the period 1 July 2023 to 30 June 2024. We therefore qualify our conclusion in this regard.

A summary of key exceptions and non-compliance with the applicable AEMO IT Standards is provided below:

Criteria	Finding Summary	Risk Rating	Compliance Rating
<p>AEMO’s <i>Identity Access Control and Authentication Security Standard</i></p>	<p>Instances where AEMO’s IT access management controls were not applied in line with AEMO’s Identity Access Control and Authentication Security Standard.</p> <p>Our procedures have identified instances where AEMO’s IT access management controls were performed inconsistently with respect to AEMO’s IT Standards.</p> <p>The effect of non-compliance with IT policies is an increased risk of unauthorised or inappropriate access to systems and data, including reports, automated calculations and reconciliations, and interfaces, which form part of AEMO’s internal controls relation to compliance with the GSI Rules.</p>	<p>Medium</p>	<p>Level 1</p>



Qualified conclusion

Based on the procedures performed and evidence obtained, except for the matter noted in the *Basis for Qualified Conclusion* paragraph, nothing has come to our attention that causes us to believe that the Australian Energy Market Operator did not maintain, in all material respects, internal control procedures in relation to compliance with the GSI Rules for the year ended 30 June 2024.

PricewaterhouseCoopers

PricewaterhouseCoopers

N. Burjorjee

Nick Burjorjee
Partner

Melbourne
30 October 2024



Appendix A – Summary of Findings

Findings identified through the limited assurance engagement are reported to AEMO management each year.

We have considered materiality when evaluating the effect of identified control weakness on our conclusion. When assessing materiality, we considered qualitative factors as well as quantitative factors, including:

- The purpose of the engagement and specific requirements of the engagement
- The importance of an identified control weakness in relation to the area of activities and the entities overall objectives
- The impact of a centralised function on other parts of the entity
- Public perception and/or interest in the area of activity
- The cost of alternative controls relative to their likely benefit
- The length of time an identified control weakness was in existence
- The frequency and severity of control weaknesses identified in previous engagements.

The table below summarises new findings reported, and findings from prior periods which remained open throughout FY24. This includes findings reported by AEMO management or through our procedures. The items included in the table below comprise of 7 market-related observations, and 18 IT-related observations.

	Critical	High	Medium	Low
Level 1	0	0	5	5
Level 2	0	0	6	8
Level 3	0	0	0	1
Total	0	0	11	14

The table below summarises findings from prior periods which have been closed during FY24. These include 1 market-related observation and 8 IT-related observations.

	Critical	High	Medium	Low
Level 1	0	0	4	2
Level 2	0	0	1	2
Level 3	0	0	0	0
Total	0	0	5	4

All findings in the tables above have been agreed with management and formally reported to AEMO's Finance Risk and Audit Committee.



We have categorised control observations noted according to agreed risk and compliance ratings. The risk ratings applied for each finding are consistent with the likelihood and consequence matrix adopted by AEMO's Finance Risk and Audit Committee.

The ratings have been tailored to reflect the potential impact on the market as follows:

Risk Rating	Definition
Critical	Findings which may have a catastrophic impact on the market operations if they are not addressed immediately and require executive action with regular reporting at Board level.
High	Findings which may have a major impact on the market operations if they are not addressed as a matter of priority. These findings require senior management attention with regular monitoring and reporting at executive and Board meetings.
Medium	Findings which may have a moderate impact on the market operations if they are not addressed within a reasonable timeframe. These findings require management attention with regular ongoing monitoring.
Low	Findings which may have a minor impact on market operations if they are not addressed in the future. These findings are the responsibility of management with regular monitoring and reporting at staff meetings.

Compliance Rating	Definition
Level 1	Evidence of non-compliance with review criteria. These should be addressed as a matter of high priority. (Non-compliance)
Level 2	Issues which could possibly result in non-compliance with review criteria but where no evidence of actual non-compliance was found. However, there is considered to be insufficient formal evidence of controls in place or being actioned in relation to these issues. (Gaps in control design or operating effectiveness)
Level 3	Housekeeping matters and opportunities for improving internal controls and procedures relating to gas market procedures. (Control improvement opportunities)

Appendix B – Summary of Observations & Management Comments

The following table provides a summary of issues against the compliance with the GSI Rules. It is presented by AEMO's management to the Economic Regulation Authority Western Australia (ERA). Comments provided by AEMO management in response to the observations are not included within the scope of PwC's report and have not been subjected to the procedures applied by PwC in the assessment of AEMO's compliance with the GSI Rules.

The detailed findings in relation to the Gas Services Information (GSI) are shown below, split between findings from the current review period (PwC reported and Management reported) and a status update of findings identified during the prior year engagement.

Appendix B.1 – Gas Services Information – Findings reported by PwC – 1 July 2023 to 30 June 2024

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status
24 GSI 1	Issue Type Control design issue reported by PwC Obligation GSI Rules 21-50	Internal checklists for facility transfer were not completed in line with internal procedures In accordance with GSI Rules 21-50, AEMO may grant a facility transfer to the Gas Bulletin Board (GGB) if they meet certain criteria. All of these require formal approval from the GM, WA Market Operations. AEMO has developed internal work instructions, which outline the key activities to be undertaken by AEMO prior to granting a facility transfer request. These are all supported by a facility transfer checklist, which is to be completed as part of each assessment to ensure that AEMO has performed all necessary activities to maintain compliance with the GSI Rules. Sample testing of one (1) facility transfer assessed by AEMO in FY24 noted that the checklist was not completed and/or retained by the respective Market Analysts. Management indicated that the checklists were not completed and retained as the Work Instructions used by the team provide sufficient detail on how to process a GBB (WA) registration activity in a compliant manner. Implication Where facility transfer checklists are not completed, there is reduced ability to demonstrate that all required activities have been completed to grant facility registration, deregistration or registration exemption. This may increase the risk of non-compliance with the GSI Rules.	Compliance Rating: Level 2 Risk Rating: Low (Likelihood: Unlikely; Consequence: Minor)	Management should reiterate the importance of completing the facility transfer checklists.	Management Response AEMO accepts this finding and recommendation. Implementation Date 30 October 2024

Appendix B.2 – Gas Services Information – Findings reported by Management – 1 July 2023 to 30 June 2024

AEMO's Risk & Compliance team is responsible for verifying the status of non-compliances reported by Management to ensure that remediation actions have been implemented and closed. All Management identified non-compliances are reported by Risk & Compliance to the FRAC on a quarterly basis. For Management reported findings, PwC have leveraged the information provided in the compliance breach forms and the status per Management representation.

The following table is a summary of Management identified non-compliances reported to the FRAC:

No.	Obligation	Finding	Compliance Rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
24 GSI 2	GSI Rule 111A(1)(b)	AEMO's published annual report for FY23 will not adhere to the new Regulatory Reporting Guidelines issued by the ERA.	Level 1	Low	Yes	871	Open – Overdue
24 GSI 3	GSI Rules 20(2) and 20(3)	No notice was provided for a GBB outage.	Level 1	Low	Yes	874	Closed

Appendix B.3 – Gas Services Information – Summary of prior year findings reported by PwC

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY24 Status
23 GSI 1	Issue Type Control design issue reported by PwC Obligation Multiple	AEMO's register of obligations within the Gas Services Information (GSI) Rules is incomplete The GSI Rules detail the roles and functions of various parties and govern the operation of the Gas Bulletin Board (GBB) and preparation of the Gas Statement of Opportunities (GSOO). AEMO has identified 231 obligations within the GSI with which they must comply, which have been recorded in multiple spreadsheets ("the registers" or "the obligations registers"). Review of the registers at the time of fieldwork (May 2023) identified two (2) obligations, 73A(3) and 89A, that were not recorded within. These obligations were introduced as part of an update to the GSI Rules on 1 December 2022. In addition, of the 231 obligations recorded in the registers: <ul style="list-style-type: none"> While all were allocated to obligation and control owners, some of the named individuals were outdated (i.e. the staff are not at AEMO or have changed roles) 68 (29%) obligations did not have a corresponding control listed Some controls documented were high-level in nature or only reference a corresponding procedure or work instruction. 	Compliance Rating: Level 2 Risk Rating: Medium (Likelihood: Possible; Consequence: Minor)	Management should: <ol style="list-style-type: none"> Update the current register to include GSI obligations 73A(3) and 89A, including their respective obligation and control owners, risk ratings and controls. Following this, management should undertake an exercise to agree and update the obligations and controls mapping document to accurately reflect management's control 	Management Response AEMO accepts this finding and recommendation. Implementation Date <ol style="list-style-type: none"> Assigning ownership and controls – 30 June 2024 Review of key control descriptions – 30 September 2024 	Open – Not yet due: <ol style="list-style-type: none"> Completed - The GSI obligations register has been updated to have assigned owners and a list of initial controls. In progress – Management are underway in reviewing

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY24 Status
		<p>It is acknowledged that whilst AEMO does not currently have obligations 73A(3) and 89A) captured in their obligation and risk register, management were able to demonstrate compliance with these obligations (on a sample basis).</p> <p>AEMO has historically utilised Risk Wizard to capture obligations that AEMO needed to comply with. Risk Wizard was decommissioned in 2020, at which point AEMO transitioned to spreadsheet obligation registers. AEMO is exploring options to implement a new Governance, Risk & Compliance (GRC) application, which would provide a central source of information with regards to obligations.</p> <p>Implication</p> <p>Where obligations are not recorded in a register, or accountabilities or controls are not adequately assigned to obligations, there is an increased risk of non-compliance with those obligations caused by a lack of awareness of the need to comply with them.</p>		<p>activities. This should prioritise higher risk obligations.</p> <p>2. Review key control descriptions to verify that they adequately describe activities performed to support compliance with obligations.</p>		control descriptions.
23 GSI 2	<p>Issue Type</p> <p>Control operating issue reported by PwC</p> <p>Obligation</p> <p>GSI Rules 21-50</p>	<p>Internal checklists for facility registration, deregistration and registration exemption were not completed in line with internal procedures</p> <p>In accordance with GSI Rules 21-50, AEMO may grant a facility registration, deregistration or registration exemption, to the GBB if they meet certain criteria. All of these require formal approval from the GM, WA Market Operations.</p> <p>AEMO has developed internal work instructions, which outline the key activities to be undertaken by AEMO prior to granting a facility registration, deregistration or exemption. These are all supported by a checklist, which is to be completed as part of each assessment. Through sample testing of one (1) registration, one (1) deregistration, and one (1) registration exemption assessed by AEMO in FY23, it was noted that the checklists were not completed and/or retained by the respective Market Analysts.</p> <p>Through discussions with management, it was noted that the checklists were not completed and retained as the Work Instructions used by the team provide sufficient detail on how to process a GBB (WA) registration activity in a compliant manner.</p> <p>It is acknowledged that whilst the checklist and completion of it is not a requirement of the GSI Rules, the internal checklist has been created to ensure that AEMO has performed all necessary activities to to maintain compliance with the GSI rules. Sample testing of the three (3) GSI registration activities did not indicate any instances of non-compliance by AEMO.</p> <p>Implication</p> <p>Where the respective checklist is not completed, there is an increased inability for the approver (GM, WA Markets) to validate all required activities have been completed to grant facility registration, deregistration or registration exemption. This may increase the risk of non-compliance with the GSI Rules.</p>	<p>Compliance Rating:</p> <p>Level 2</p> <p>Risk Rating:</p> <p>Low</p> <p>(Likelihood: Unlikely; Consequence: (Minor))</p>	<p>Management will review the internal work instructions and update (where appropriate) to reflect the requirement of completing the registration checklists. Once completed, management will communicate any updates made to the work instructions, including reiterating the importance of completing the registration checklists.</p>	<p>Management Response</p> <p>AEMO accepts this finding and recommendation.</p> <p>Implementation Date</p> <p>31 March 2024</p>	<p>Closed:</p> <p>Internal work instructions have been updated to reflect the requirement of completing the registration checklists.</p>

Appendix B.4 – Gas Services Information - Summary of prior period findings reported by Management

No.	Obligation	Finding	Compliance Rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
23 GSI 4	111A(2)(b)	AEMO issued the FY24 Budget which did not include information required by the Regulatory Reporting Guidelines (an annual forecast statement of cashflows and a forecast statement of financial position).	Level 1	Low	Yes	858	Open - Overdue

Appendix B.5 – Information Technology – Summary of findings

There were 7 new findings, comprising 4 Medium and 3 Low rated Information Technology findings reported by PwC in FY24. In addition, 11 findings raised in prior periods remained open, comprising of 6 Medium and 5 Low rated findings. These findings have the potential to impact a range of markets and systems across AEMO, including the WEM and GSI.

The new findings related to logical access (1 Medium), change management (1 Medium), physical access (1 Medium), and IT operations (1 Medium, 3 Low). No findings were identified regarding program development.

Multiple prior year observations were closed in FY24. This included:

- 2 Information Technology findings raised in FY22.
- 6 Information Technology findings raised in FY23.

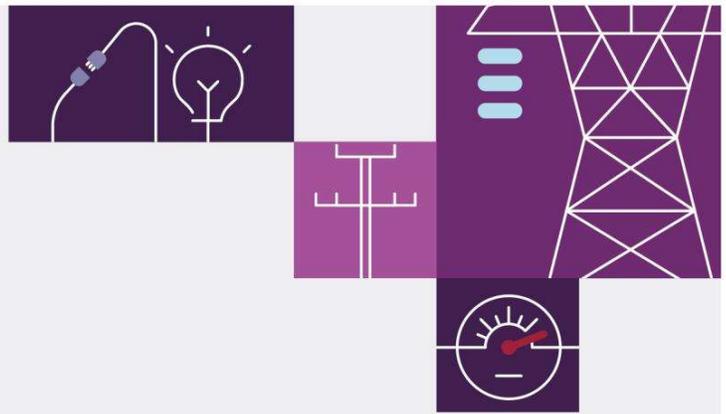
Appendix 3 AEMO's response to the audits

AEMO's Response to WEM & GSI Market Audit Reports

November 2024

For audit period 1 July 2023 to
30 June 2024





Important notice

Purpose

AEMO has prepared this document in response to the Market Audit reports for the annual Wholesale Electricity Market (WEM) and Gas Services Information (GSI) audits conducted for the period 1 July 2023 to 30 June 2024, as at the date of publication.

Disclaimer

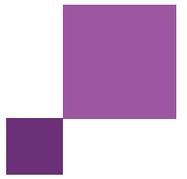
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1 Background

The Wholesale Electricity Market (WEM) Rules and the Gas Services Information (GSI) Rules require AEMO to appoint a market auditor to conduct the Western Australian electricity and gas market audits. The audits are compliance based reviews of AEMO's obligations under the WEM Rules and the GSI Rules and associated procedures.

The WEM Rules and the GSI Rules require two annual audits to be undertaken:

1. WEM Electricity Compliance Audit; and
2. GSI Gas Compliance Audit.

AEMO appointed Pricewaterhouse Coopers (PwC) to conduct the market audits for the period 1 July 2023 to 30 June 2024.

The final audit reports prepared by PwC can be found on AEMO's website at <https://aemo.com.au/energy-systems/electricity/wholesale-electricity-market-wem/wem-events-and-reports/market-audit-reports> and <https://aemo.com.au/en/energy-systems/gas/wa-gas-bulletin-board-wa-gbb/market-audit-reports> and should be read in conjunction with this report.

This report sets out the matters that AEMO accepts and does not accept (and reasons for those views) with respect to the final audit reports as required under clause 2.14.4(b) of the WEM Rules and rule 174(3) of the GSI Rules.

2 AEMO's response

AEMO accepts PwC's findings and recommendations with respect to the audit reports for:

1. WEM Electricity Compliance Audit; and
2. GSI Gas Compliance Audit.