



Economic Regulation Authority

Report to the Minister for Energy on the Australian Energy Market Operator's compliance 2022/23

Wholesale Electricity Market Rules
Gas Service Information Rules

9 February 2024

Economic Regulation Authority

Level 4, Albert Facey House

469 Wellington Street, Perth WA 6000

Telephone 08 6557 7900

Email info@erawa.com.au

Website www.erawa.com.au

This document can also be made available in alternative formats on request.

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Executive summary

The Economic Regulation Authority (ERA) has prepared its annual report to the Minister for Energy on the Australian Energy Market Operator's (AEMO) compliance with the Wholesale Electricity Market (WEM) Rules and the Gas Services Information (GSI) Rules.

AEMO appointed PricewaterhouseCoopers (PwC) as Market Auditor (auditor) to perform the 2022/23 financial year independent limited assurance engagement.

This ERA report considers the results of the 2022/23 independent assurance engagement on AEMO's performance against the WEM Rules and GSI Rules.

The ERA's investigation into the AEMO non-compliance matters raised in the 2022/23 audit report are ongoing. The ERA acknowledges AEMO's reporting that it has dealt with most of the non-compliances raised in the 2022/23 audit period.

Auditor's conclusion

Based on the procedures performed and evidence obtained, the auditor concluded that nothing had come to their attention that caused them to believe that AEMO had not maintained in all material respects, effective control procedures in relation to compliance with the WEM and GSI Rules for the year ended 30 June 2023.

Findings

The WEM audit identified 38 WEM Rules non-compliances in 2022/23, of which 37 have been resolved and closed. One non-compliance is not yet due for closure.

Only one WEM Rules non-compliance was considered high risk. One WEM Rules non-compliance was considered a medium risk. The remainder were deemed low risk. The high and medium risk non-compliances have been resolved and closed since the audit.

The auditor identified two instances where the controls in place were insufficient and could potentially lead to future non-compliance if not remedied, and one opportunity for improvement to mitigate future non-compliance. These issues did not constitute non-compliances.

There were 11 WEM information technology issues reported which did not constitute any non-compliances.

The GSI audit identified two low risk GSI Rules non-compliances in 2022/23. One non-compliance has been resolved and closed and one is not yet due for closure.

The auditor identified two instances where the controls in place were insufficient and could potentially lead to future non-compliances if not remedied.

There were 11 GSI information technology issues reported which did not constitute any non-compliances.

1. Introduction

The ERA is responsible for the compliance and enforcement functions in the WEM Rules and the GSI Rules. As part of these functions, the ERA must annually provide a report to the Minister for Energy on AEMO's compliance with the rules¹.

AEMO is required to appoint one or more auditors to conduct an audit of AEMO's compliance with the WEM and GSI Rules no less than annually.

AEMO appointed PricewaterhouseCoopers (PwC) as Market Auditor (auditor) to perform the 2022/23 financial year independent limited assurance engagement.

This report contains the results of the Market Auditor's 2022/23 audits.

The Auditor's conclusion is that nothing caused them to believe that AEMO did not maintain, in all material respects, internal control procedures in relation to compliance with the WEM Rules or the GSI Rules.

¹ Wholesale Electricity Market Rules (WA), 29 April 2023, Rule 2.14.5B. Gas Services Information Rules (WA), 1 December 2022, Rule 174(5).

2. WEM Rules audit report

AEMO must ensure that a Market Auditor carries out audits to determine its compliance with the WEM Rules and WEM Procedures, including AEMO's internal procedures and business processes.² The audit must also consider AEMO's market software systems and processes for software management.

The Auditor's conclusion is that nothing caused them to believe that AEMO did not maintain, in all material respects, internal control procedures in relation to compliance with the WEM Rules.

2.1 Summary of findings

The results of the 2022/23 audit are documented in the auditor's independent assurance report on AEMO's compliance with the WEM Rules and WEM Procedures (Appendix 2). The audit report was published on AEMO's website on 31 October 2023.

A full description of risk ratings and compliance ratings are provided in Appendix 1.

The audit identifies non-compliances, gaps in control design or operating effectiveness and opportunities for improvement in controls and procedures.

2.2 Non-Compliances

The key areas of non-compliances reported in 2022/23 are presented in Table 2. The low-risk non-compliances are shown in descending order of occurrence (ranging from 10 instances of non-compliant dispatch instructions to one instance of late approval of a commissioning plan).

In 2022/23 there were 38 non-compliances reported:

- one high risk non-compliance, resolved and closed
- one medium risk non-compliance, resolved and closed
- 36 low risk non-compliances, of which 35 have been resolved and closed.

Table 1: 2022/23 Areas of non-compliance

Area of non-compliance	Breach reported by	Non-compliance risk rating
Approval of a Reserve Capacity application which had not met appropriate criteria	AEMO	High
Incorrectly calculated Relevant Demand for some Demand Side Programme facilities for some Trading days	AEMO	Medium

² Wholesale Electricity Market Rules, 29 April 2023, Clause 2.14.3, ([online](#)).

Area of non-compliance	Breach reported by	Non-compliance risk rating
Dispatch Advisories incorrect or not released	PWC/AEMO	Low
Late/inaccurate publication of reports, information on website	AEMO	Low
LFAS not enabled for cleared amount	AEMO	Low
Sharing market information to the wrong Market Participant	AEMO	Low
Late approval of commissioning plan	PwC	Low

The high-risk non-compliance was due to AEMO approving an application for Certification of Reserve Capacity for a Market Participant which had submitted some information via email instead of via the Wholesale Electricity Market System. The application should have been rejected by AEMO, however AEMO assessed the emailed information and decided to assign Certification of Reserve Capacity.

The medium-risk non-compliance was due to an internal system error which incorrectly calculated Relevant Demand for Demand Side Programme facilities resulting in incorrect payments and charges to some participants. AEMO has corrected the relevant level calculation tool.

The ERA's investigation into these matters is ongoing.

2.3 Controls

The auditor identified three controls issues. Two gaps in control design/operating efficiency and one opportunity for improvement. These are shown in Table 3 along with the risk rating.

Table 2: 2022/23 Control gaps and control improvement opportunities

Insufficient controls	Risk rating
Supplementary Reserve Capacity procedures for procurement and settlement not formalised	Medium
Skills Maintenance and Simulation Training not completed by staff	Low
Control improvement opportunity	Risk rating
A critical events and information register should be implemented to support Operational Planning and Forecasting and Power System Operations teams.	Low

To address these issues AEMO has:

- Formalised the Supplementary Reserve Capacity procedures for procurement and settlement and the audit finding has now been closed.
- Performed remediation activities for staff absent from Skills Maintenance and Simulation training and have until 30 April 2024 to implement a tracking system to identify staff that are absent from training.
- Agreed to develop and implement a register to capture critical event information to share with staff by 30 April 2024.

2.4 WEM Information Technology findings

There were six medium and five Low rated Information Technology (IT) issues identified by the auditor in this reporting period. From the previous audit period, six medium and three low rated findings remain open and three were closed during the 2022/23 audit period.

These findings currently have no direct impact on AEMO's obligations to the WEM Rules or but were identified as having the potential to impact a range of markets and systems across AEMO.

2.5 Resolved WEM audit findings from 2021/22

There were seven outstanding findings from the 2021/22 audit period. None of the findings constituted a non-compliance with the WEM rules, only improvements to controls. Five findings have been resolved and closed. Two findings have recommendations that are not due for implementation yet.

3. GSI Rules audit report

The GSI Rules require AEMO to have an annual compliance audit.⁴ The audit must consider AEMO's compliance with the GSI Rules and GSI Procedures, including AEMO's internal procedures and business processes. The audit must also consider AEMO's market software systems for the Gas Bulletin Board and calculation of GSI fees and processes for software management.

3.1 Summary of findings

The Auditor's conclusion is that nothing caused them to believe that AEMO did not maintain, in all material respects, internal control procedures in relation to compliance with the GSI Rules.

The results of the 2022/23 audit are documented in the auditor's independent assurance report on AEMO's compliance with the GSI Rules and GSI Procedures (Appendix 3). The audit report was published on AEMO's website on 31 October 2023.⁵

A full description of risk ratings and compliance ratings are provided in Appendix 1.

3.2 Non-compliances

The audit identified two low risk GSI Rule non-compliances reported by AEMO management. One non-compliance related to the late publication of a Financial Report has been resolved and closed. The other non-compliance related to information omitted from the 2023/24 Budget is not yet due for resolution.

3.3 Controls

The auditor identified two control design issues. One issue was rated a medium risk and requires AEMO to update its register of obligations within the GSI Rules and review the key control descriptions to adequately describe activities that support compliance with obligations. The recommended resolution of this issue is not due for implementation until 30 June 2024 and 30 September 2024.

The other control issue requires review of internal work instructions to reflect the requirement to complete a registration checklist. This is due for implementation by 31 March 2024.

3.4 GSI Information Technology findings

There were six new medium and five new low risk Information Technology issues identified by the auditor in the reporting period. From the previous audit period, five medium and three low risk findings remain open and three were closed during the 2022/23 audit period.

⁴ Gas Services Information Rules (WA), 1 December 2022, Rule 174(2) of the GSI Rules, ([online](#)).

⁵ AEMO Independent Assurance Report – GSI Annual Compliance Audit 2023, ([online](#)).

These findings currently have no direct impact on AEMO's obligations to the GSI Rules but were identified as having the potential to impact a range of markets and systems across AEMO.

3.5 Resolved GSI audit findings from 2021/22

There was one outstanding non-compliance finding from the previous year which was resolved on 31 December 2022. This related to AEMO adjusting GSI fees late.

4. AEMO's response to the audits

AEMO stated it accepted the audit findings that were reported at the conclusion of both audits. AEMO published its response to the audits on its website.

Appendix 1 Compliance Risk Ratings

Table 1 describes the ratings the auditor used to assess AEMO's compliance.

Table 1: Compliance ratings used by the auditor⁶

Compliance Rating	Definition
Level 1 (Non-compliance)	Evidence of non-compliance with review criteria. These should be addressed as a matter of high priority.
Level 2 (Gaps in control design or operating effectiveness)	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.
Level 3 (Control improvement opportunities)	Housekeeping matters and opportunities for improving internal controls and procedures relating to gas market procedures.

The following risk ratings, set in consultation with AEMO, were used by the auditor to assess the findings:

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.

⁶ Refer to page 5 of Independent Assurance Report on AEMO's compliance with the WEM Rules and Market Procedures.

Appendix 2 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 2023, in respect of AEMO's internal control procedures, including procedures within AEMO's market software systems and AEMO's internal control procedure documents relating to the WEM (the "WEM Procedures"), in relation to compliance, in all material aspects, with the Wholesale Electricity Market Rules version 1 July 2022 to version 29 April 2023 (the "WEM Rules").

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.

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

PricewaterhouseCoopers, ABN 52 780 433 757
Brookfield Place, 125 St Georges Terrace, PERTH WA 6000, GPO Box D198, PERTH WA 6840
T: +61 8 9238 3000, F: +61 8 9238 3999, www.pwc.com.au

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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 testing to validate 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.

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 conclusion.

Scope Exclusions

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

- information technology general controls (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 designing our procedures in relation to AEMO's processes for software management, the criteria used to evaluate compliance was AEMO's internal control procedure documents relating to ITGCs. Procedures were therefore limited to testing of ITGCs. 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 WEMS, 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 work is based primarily on information supplied by management and was carried out on the basis that such information is accurate and complete.

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.

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 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.

Conclusion

Based on the procedures performed and evidence obtained, 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 2023.

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

PricewaterhouseCoopers

A handwritten signature in cursive script that reads "Ashdown".

Sian Ashdown
Partner

Perth
12 October 2023



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 FY23. This includes findings reported by AEMO management or through our procedures. The items included in the table below comprise of 38 market-related non-compliances with the WEM Rules, 4 market-related control observations and 20 IT-related observations.

	Critical	High	Medium	Low
Level 1	0	1	8	39
Level 2	0	0	7	6
Level 3	0	0	0	1
Total	0	1	15	46

The table below summarises findings from prior periods which have been closed during FY23. These include 1 market-related non-compliance with the WEM Rules, 6 market-related control observations and 3 IT-related observations.

	Critical	High	Medium	Low
Level 1	0	0	2	2
Level 2	0	0	3	1
Level 3	0	0	1	1
Total	0	0	6	4

All findings in the tables above have been agreed with management and formally reported to AEMO's Finance Risk and Audit Committee. Further details of the findings are provided within Appendix B.



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 2022 to 30 June 2023

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status
23 WEM 1	Issue Type Control design issue reported by PwC Obligation WEM Rule 4.24	<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>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 	<p>Management Response</p> <p>AEMO agrees with this finding and the recommendations.</p> <p>Implementation Date</p> <ol style="list-style-type: none"> 1. 30 November 2023 2. 30 November 2023

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status
		<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 were 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 increases given that management expects increased circumstances where SRC is required in the future, the likelihood of the above risks are increased.</p>		<ul style="list-style-type: none"> 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>	
23 WEM 2	<p>Issue Type</p> <p>Non-compliance reported by PwC</p> <p>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>A Market Participant 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 the same day to request changes to the CTP. The Market Participant provided a revised Plan three days later 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>Implication</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 agrees with this finding and the recommendations.</p> <p>Implementation Date</p> <p>31 August 2023</p>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status
		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.			
23 WEM 3	Issue Type Non-compliance reported by PwC Obligation WEM Rules 7.11.6 (c)	<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, which is 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: Level 1</p> <p>Risk Rating: Low (Likelihood: Unlikely; Consequence: Immaterial)</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>Management Response</p> <p>AEMO agrees with this finding and the recommendations.</p> <p>Implementation Date</p> <p>30 September 2023</p>
23 WEM 4	Issue Type Non-compliance reported by PwC Obligation WEM Rule 7.6A.2(c)	<p>Two Dispatch Plans were issued late to Synergy by AEMO</p> <p>As per 7.6A.2(c) of the WEM Rules, AEMO must provide to Synergy by 4:00 PM on the Scheduling Day associated with a Trading Day:</p> <ul style="list-style-type: none"> The Dispatch Plan for each Facility for the Trading Day; and A forecast of the detailed Ancillary Services required from each Facility in the Balancing Portfolio and Ancillary Services from each Stand Alone Facility. <p>An initial Dispatch Plan, in the form of a spreadsheet, is generated from the System Operator Controller User Interface (SOCCUI). Following the initial output being created, a Power System Security Engineer will review and modify the Dispatch Plan with consideration to factors such as the past day's performance, upcoming outages and ancillary services required. The Synergy Dispatch Planning procedure provides guidance for PSSEs when developing Dispatch Plans, including consideration to non-scheduled generation forecasts and transmission outages.</p>	<p>Compliance Rating: Level 1</p> <p>Risk Rating: Low (Likelihood: Unlikely; Consequence: Minor)</p>	Management should reiterate to PSSEs to consider operational requests, transmission constraints and islanding prior to issuing a Dispatch Plan to Synergy.	<p>Status: Closed</p> <p>Management Response</p> <p>AEMO agrees with this finding and the recommendations.</p> <p>The recommendation was discussed in a team meeting on 27 July 2023. It was a reiteration of an existing process.</p> <p>Implementation Date</p>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status												
		<p>Sample testing performed across 15 Synergy Dispatch Plans identified the following Dispatch Plans that were issued to Synergy after 4:00 PM on the Scheduling Day. Further information relating to each late Dispatch Plan is detailed under the table:</p> <table><tr><th>Scheduling Day</th><th>Due Time</th><th>Actual Time</th><th>Time Overdue</th></tr><tr><td>Thursday, October 20, 2022</td><td>4:00 PM</td><td>4:28 PM</td><td>28 minutes</td></tr><tr><td>Wednesday, May 3, 2023</td><td>4:00 PM</td><td>5:15 PM</td><td>1 hour 15 minutes.</td></tr></table> <p>For the Scheduling Day of 20 October 2022, the Dispatch Plan was communicated to Synergy late due to an IT-related issue experienced by a PSSE whilst working from home. Management determined this issue was an isolated incident and has not been experienced since.</p> <p>For the scheduling day of 3 May 2023, a Dispatch Plan was initially shared with Synergy at 3:40 PM. However, a revised Dispatch Plan was communicated to Synergy at 5:15 PM after the PSSE identified that operational requests, islanding, and transmission constraints were not taken into account when forecasting was initially determined.</p> <p>It is acknowledged that from 1 October 2023, (i.e. commencement date of WEM Reform), AEMO will no longer be required to develop and submit daily Dispatch Plans to Synergy.</p> <p>Implication</p> <p>Where the Dispatch Plans are not provided to Synergy in a timely or accurate manner, this represents a risk for Synergy to accurately forecast their requirements for the following trading day and ability to accurately undertake within the bidding process and provide ancillary services to the SWIS.</p>	Scheduling Day	Due Time	Actual Time	Time Overdue	Thursday, October 20, 2022	4:00 PM	4:28 PM	28 minutes	Wednesday, May 3, 2023	4:00 PM	5:15 PM	1 hour 15 minutes.			Completed
Scheduling Day	Due Time	Actual Time	Time Overdue														
Thursday, October 20, 2022	4:00 PM	4:28 PM	28 minutes														
Wednesday, May 3, 2023	4:00 PM	5:15 PM	1 hour 15 minutes.														
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>	<p>1. Management should perform remediation activities for the two (2) PSO staff who were absent from SMS Training in a timely manner.</p> <p>2. 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</p>	<p>Management Response</p> <p>AEMO agrees with this finding and the recommendations.</p> <p>Implementation Date</p> <p>1. 31 December 2023</p> <p>2. 30 April 2024</p>												

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation 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>		absent from SMS Training.	
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 agrees with this finding and the recommendations.</p> <p>Implementation Date</p> <p>30 April 2024</p>



Appendix B.2 – Wholesale Electricity Market – Findings reported by Management – 1 July 2022 to 30 June 2023

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
23 WEM 7	4.11.1	AEMO approved a Certified Reserve Capacity application that did not meet the Stage 1 assessment criteria.	Level 1	High	Yes	845	Closed
23 WEM 8	4.26.2CA	Relevant Demand for Demand Side Programmes was calculated incorrectly for some facilities and Trading Days. There were two months where incorrect amounts were used for settlement purposes and could not be amended.	Level 1	Medium	Yes	813	Closed
23 WEM 9	3.21A.9	AEMO failed to notify a Market Participant of the approval of their Commissioning Test Plan before 8am on the scheduling day. The Participant was notified at 10:41am.	Level 1	Low	Yes	774	Closed
23 WEM 10	7B.3.6	LFAS was not enabled for the amount cleared in the LFAS Enablement Schedule.	Level 1	Low	Yes	780	Closed
23 WEM 11	9.20.5(a) - (c)	AEMO notified the Metering Data Agent of a Notice of Disagreement outside of the 5 business days allowed by the rules.	Level 1	Low	Yes	781	Closed
23 WEM 12	7.11.5(g)	AEMO did not issue a Dispatch Advisory for expected Out of Merit dispatch.	Level 1	Low	Yes	784	Closed
23 WEM 13	3.16.9	The MT PASA report was not published on the first Business Day falling on or following the 15th day of October. The ST PASA report was mistakenly published instead. The correct report was published one business day late.	Level 1	Low	Yes	787	Closed
23 WEM 14	7.11.5(g)	AEMO did not issue a Dispatch Advisory when two facilities were dispatched Out of Merit as required by the rules.	Level 1	Low	Yes	788	Closed

No.	Obligation	Finding	Compliance rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
23 WEM 15	3.1.6 of the WEM Procedure: Facility Registration, De-Registration and Transfer	AEMO made a conscious breach by creating facilities in WEMS without consulting with the Meter Data Agent in respect to the Facility name. This was in order to create the facilities by the necessary deadline to allow Participants to participate in the Reserve Capacity Mechanism (and to avoid a more significant breach).	Level 1	Low	Yes	795	Closed
23 WEM 16	4.25.4C(c)	The Rules allow AEMO to reduce the number of Capacity Credits a Market Participant holds for a facility at AEMO's discretion upon receiving an application from a Market Participant. Market Participant submitted a request which AEMO assessed and approved in an email to the participant however the reduction was not reflected in WEMS MPI which resulted in the facility operating at a greater level than its required level during the testing period.	Level 1	Low	Yes	796	Closed
23 WEM 17	7.11.5(g)	AEMO did not issue a Dispatch Advisory containing the required information for Out of Merit dispatch.	Level 1	Low	Yes	802	Closed
23 WEM 18	4.1.23B	The 4 Peak SWIS Trading Intervals were published one day outside the five Business Days required by the rules.	Level 1	Low	Yes	806	Closed
23 WEM 19	7B.3.6	AEMO failed to activate LFAS Facilities for their full LFAS Enablement resulting in a shortfall in LFAS Up and Down over two trading intervals.	Level 1	Low	Yes	808	Closed
23 WEM 20	Clause 2.22A.8	AEMO's 2022 WA Financial Report was published 18 days past the deadline in the rules. This was due to additional requirements for the report released 5 weeks before it was due for publication.	Level 1	Low	Yes	809	Closed
23 WEM 21	4.25.9(dA)	The Reserve Capacity Test Operating Instructions for a facility was issued 8 minutes before allowed by the rules.	Level 1	Low	Yes	814	Closed
23 WEM 22	7.11.5(g)	AEMO constrained down several facilities and no Dispatch Advisory was issued to advise Market Participants of potential or actual Out of Merit Dispatch.	Level 1	Low	Yes	818	Closed
23 WEM 23	7.11.5(g)	AEMO did not release a Dispatch Advisory to advise Market Participants of potential or actual Out of Merit Dispatch where a facility received Dispatch Instructions resulting in Out of merit Dispatch.	Level 1	Low	Yes	819	Closed
23 WEM 24	10.2.4	The breakdown of the Synergy Portfolio in the LFAS Market was sent to another Market Participant in error.	Level 1	Low	Yes	820	Closed

No.	Obligation	Finding	Compliance rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
23 WEM 25	Paragraph 4.1.6 of WEM Procedure: Indicative Facility Class and RCM Facility Class Assessment	Several Market Participants that did not have facilities created in the WEMS within the allowed timeframe (10 Business Days before the CRC window opening) were permitted to participate in the CRC process.	Level 1	Low	Yes	821	Closed
23 WEM 26	3A.1.5	AEMO published a GPS guideline following WEM Rules changes (effective 1 Jan 2023) late (19 Jan 2023).	Level 1	Low	Yes	822	Closed
23 WEM 27	3A.6.2	AEMO did not revise a WEM Procedure to update it in accordance with WEM Rules changes (effective 1 Jan 2023).	Level 1	Low	Yes	823	Closed
23 WEM 28	7.11.5(g)	AEMO did not release a Dispatch Advisory to advise Market Participants of potential or actual Out of Merit Dispatch where two facilities received Dispatch Instructions resulting in Out of merit Dispatch.	Level 1	Low	Yes	824	Closed
23 WEM 29	7.11.5(h)	AEMO expected to use LFAS Facilities other than in accordance with the LFAS Enablement Schedule, however Systems Management did not issue a Dispatch Advisory as required.	Level 1	Low	Yes	834	Closed
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	Open - not yet due
23 WEM 31	4.11.1(j)	AEMO published the incorrect quantity for a Market Participant in the Reserve Capacity Mechanism Portal	Level 1	Low	Yes	837	Closed
23 WEM 32	7.11.5(h)	AEMO did not release a Dispatch Advisory to advise Market Participants of AEMO using LFAS Facilities other than in accordance with the LFAS Enablement Schedules	Level 1	Low	Yes	838	Closed
23 WEM 33	4.11.2	AEMO assigned two Market Participants assigned levels of Certified Reserve Capacity which did not match their Relevant Level.	Level 1	Low	Yes	844	Closed
23 WEM 34	10.2.4	An employee shared confidential information relating to a Market Participant's Facility configuration with another Market Participant.	Level 1	Low	Yes	846	Closed



No.	Obligation	Finding	Compliance rating	Rating as reported by Management	Breach form completed	Breach form reference	Status as reported by Management
23 WEM 35	7.11.5(g)	AEMO did not release a Dispatch Advisory to advise a Market Participant of potential or actual Out of Merit Dispatch where a facility received Dispatch Instructions resulting in Out of Merit Dispatch.	Level 1	Low	Yes	847	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	Open - not yet due
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 - not yet due
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	Open
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	Open
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	Open - not yet due
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	Open - not yet due

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	FY23 Status
22 WEM 2	Issue Type Control improvement opportunity reported by PwC Obligation WEM Rules 2.32.1 9.23.4 9.23.7	<p>AEMO's Regulatory Delegations of Authority should be reviewed to support the timely action of Rule Participant suspension activities</p> <p>WEM Rules 9.23.1 and 9.23.2 outline the circumstances a 'Suspension Event' may be triggered in relation to a Rule Participant, which may include scenarios such as a Rule Participant failing to make a payment before it is due, or Credit Support for a Rule Participant not being received by AEMO within 90 minutes of request.</p> <p>Once AEMO becomes aware that a Suspension Event has occurred in relation to a Rule Participant and the Suspension Event has not been remedied, a 'Cure Notice' must be issued which details the action(s) and deadline for remedying the Suspension Event. If a Rule Participant fails to remedy the Suspension Event before the deadline, AEMO may issue a Suspension Notice in line with WEM Rules 2.32.1 and 9.23.7.</p> <p>As per AEMO's Regulatory Delegations of Authority (DoA), AEMO's Board must approve the issue of both the Cure Notice and Suspension Notice prior to communication to the Rule Participant. In accordance with the DoA, all members of the Board are required to convene at short notice once a Suspension Event is identified.</p> <p>Whilst the current delegations may be appropriate, given the need for timely decision making for the issue of a Cure Notice (and potentially a Suspension Notice), there is opportunity to consider whether the delegations remain practical to meet the regulatory timeframes required by the WEM rules. Management has noted that a Suspension Event that was not remedied has not occurred in the Wholesale Electricity Market.</p> <p>It is also acknowledged that management is currently underway (in preparation for the new WEM) in reviewing AEMO's Regulatory Delegations of Authority to ensure delegations are reasonable and appropriate.</p> <p>Implication</p> <p>Where there may be a delay in the issue of a Cure Notice or Suspension Notice, there is an increased risk of Rule Participants continuing to participate in the Wholesale Electricity Market during a period where they should either be remediating a Cure Notice, or are to be suspended from participating.</p>	Compliance Rating: Level 3 Risk Rating: Medium (Likelihood: Rare; Consequence: Moderate)	Management should continue to evaluate the delegations in place to support the timely issuance of Cure Notices and Suspension Notices respectively.	Management Response AEMO agrees with this finding and the recommendations. Implementation Date 30 June 2023	Status: Closed In December 2022, the AEMO Board extended the remit of the Board Default Committee, providing it with a delegation for decisions arising out of Participant defaults in the WEM to enable more timely decision making. This has been reflected in the updated Regulatory Delegations document effective 31 March 2023.
22 WEM 3	Issue Type Control design issue reported by PwC Obligation	<p>A periodic review of changes made to Rule Participant standing data should be performed to ensure only appropriate changes are made</p> <p>As per WEM Rule 2.34.1, 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):</p>	Compliance Rating: Level 2 Risk Rating: Medium	Management should formalise a periodic review (e.g. monthly) of Standing Data changes made to ensure changes have been made	Management Response AEMO agrees with this finding and the recommendations.	Status: Closed Management has introduced a monthly review of 'Accepted' Standing Data change requests

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY23 Status
	WEM Rules 2.34.1	<ul style="list-style-type: none"> Metering Data Agent for the facility Facility-specific attributes (e.g. nameplate capacity, fuel type, AGC capability). <p>All Standing Data is maintained in the WEMS application by AEMO.</p> <p>The 'Standing Data' work instruction details the process to be performed by the Analyst following a Standing Data change request from a Rule Participant and specifies for each type of Standing Data change, who the Analyst must consult with.</p> <p>Standing Data change requests are submitted by the Rule Participant via WEMS. When a Standing Data request has been submitted, an Analyst will review the request to ensure all information provided is accurate and complete. This review may include consultation with other stakeholders (e.g. Reserve Capacity, Operational Planning & Forecasting, Western Power, etc), dependent on the type of Standing Data being updated.</p> <p>Following review and determination that the change is appropriate, a request for approval is sent via email to the Manager, WA Market Operations & Support. As required by the work instruction, the Analyst will attach evidence to the request for approval that the consultation as required by the work instruction has been followed; the Manager will then review the evidence provided to verify that the work instruction process has been followed. Once approved, the Analyst will process the change within WEMS.</p> <p>There is reliance placed upon the Analyst ensuring appropriate email approval has been obtained, as the Analyst still has the ability to process the Standing Data request within WEMS regardless of an approval not being obtained.</p> <p>Discussion with management noted that although there are alternative controls to review Standing Data change requests for appropriateness prior to acceptance (e.g. Manager approval as a matter of policy), there is no mechanism in place to conduct periodic review of Standing Data changes made in a given period to ensure Manager approval was obtained.</p> <p>It is acknowledged that upon joining the WA Market Operations team, analysts will undertake a six-week onboarding plan, which includes the process for Standing Data change requests (under Registrations).</p> <p>Implication</p> <p>Where a change in Standing Data is made without appropriate Manager approval obtained, there may be an increased risk of Standing Data being accepted without appropriate review, leading to incorrect standing data in WEMS that has not been prevented by another standing data control.</p>	(Likelihood: Unlikely; Consequence: Moderate)	<p>accurately, completely and validly.</p> <p>This review should be evidenced and signed off by the Manager, WA Market Operations & Support.</p>	<p>Implementation Date</p> <p>31 March 2023</p>	<p>within WEMS MPI, to ensure all change requests have received approval via email. Evidence of this control being performed is documented within Jira.</p> <p>Management also developed an internal work instruction, <i>Standing Data Approval Audit</i>, outlining the key activities involved and approvals required.</p>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY23 Status
22 WEM 5	Issue Type Control design issue reported by PwC Obligation WEM Rules (Multiple)	<p>Documentation to support the Detective Trigger Process could be enhanced to demonstrate that all applicable obligations have been appropriately assessed</p> <p>The new WEM will come into effect 1 October 2023, with a number of rule changes being staged and introduced prior to go-live. This is to ensure AEMO and other Rule Participants are adequately prepared to de-risk delivery of the wider WEM Reform.</p> <p>Due to the significant volume of regulatory change, and as a number of obligations are yet to be triggered (i.e. are contingent upon a date or specific condition or event occurring), management have developed a "Detective Trigger Process". This is a risk-based approach to determine the actions that should be undertaken by AEMO to ensure compliance in the event that the rule(s) becomes applicable.</p> <p>Where an obligation is assessed as applicable for the Detective Trigger Process, management may postpone the identification of the key controls designed to support compliance until a date, or until an event occurs that requires AEMO to comply with the obligation. In the interim, the Detective Trigger Process requires active monitoring from management on whether the defined trigger has occurred, so that a response plan may be prepared. The process includes five key criteria to assess applicability for an obligation:</p> <ol style="list-style-type: none"> 1. Assessing if the obligation is conditional 2. Identifying if sufficient time exists to respond once the compliance requirement is triggered. 3. Determining if any preparation is required to support compliance 4. Defining and monitoring the trigger for the obligation 5. Determining actions following the activation of trigger. <p>Management is required to enter the details of the applicable obligations within the "Trigger Register". This register outlines the general regulatory requirement, the trigger, how it is monitored, who is responsible to monitor and when to monitor. Additionally, actions to be undertaken prior and post the trigger are documented.</p> <p>Inspection of the Trigger Register noted that, while the register clearly defines triggers, monitoring plans and actions, the level of completeness of the supporting workpapers and detailed obligations register means that it is unable to be reconciled by an independent party (e.g. auditor or regulator) with the obligations register.</p> <p>Implication</p> <p>While a risk-based methodology has been established to manage the volume of rule changes through the Detective Trigger Process, there is insufficient traceability to support the assessment undertaken by management, making it difficult for an independent party to confirm that key criteria has been considered in a complete and accurate manner. This may increase the risk of non-compliance in the event the Detective Trigger Process cannot be effectively applied, resulting in a potential legal, reputational and financial impact to AEMO in the event of non-compliance.</p>	Compliance Rating: Level 2 Risk Rating: Medium (Likelihood: Unlikely; Consequence: Moderate)	Management should update the Trigger Register and Obligations Register such that they can be reconciled by an independent party.	Management Response AEMO agrees with this finding and the recommendations. Implementation Date 31 March 2023	Status: Closed The Trigger Register and WEM Consolidated Obligations and Controls register have been updated to be used in conjunction with each other, and to support reconciliation between the two registers (including by an independent third party such as a regulator or auditor).

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY23 Status
22 WEM 6	Issue Type Control design issue reported by PwC Obligation All WEM Rules upon AEMO	<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>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 the 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, at an individual obligation level, there were 515 (54%) obligations that were not assigned to an obligation owner (within 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>	Compliance Rating Level 2 Risk Rating Medium (Likelihood: Possible; Consequence: Minor)	The Operations, System Design and Transformation, and Market Development teams, in conjunction with 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>Management Response</p> <p>AEMO agrees with this finding and the recommendations.</p> <p>Implementation Date</p> <p>Pre WEM-Reform October 2023</p> <p>Post WEM-Reform April 2024</p>	<p>Status: Open - Not yet due</p> <p>This finding remains open (not yet due). 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>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY23 Status
		Implication 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.				
22 WEM 7	Issue Type Control design issue reported by PwC Obligation WEM Rules (Multiple)	Processes for training identification and planning should be formalised to ensure Power Systems Operations training is relevant and aligned to management's objectives Real Time Operations (RTO) training, which supports RTO Operators having the necessary skills and capabilities to operate the energy systems in a secure and reliable manner, is delivered through a combination of face-to-face sessions, provision of written training guides, and eLearning modules. This training is undertaken on both the East (NEM, STTM & DWGM) and West (WEM) Coasts. To ensure RTO training needs are identified, prioritised and planned for, Planning Workshops are held three times a year, which are attended by the RTO Training team and RTO Operator. Training needs, prioritisation, and delivery methods are determined via collaboration and consideration of factors, such as emerging changes in the market, risks identified by Operators including past breaches, areas of focus identified by RTO Operations, and feedback from previous sessions. Whilst these Workshops are held on the East Coast for NEM, STTM and DWGM respectively, none are currently held for the WEM. Discussions with RTO Training highlighted that plans are in place to introduce Planning Workshops for WEM PSO, however this has not yet been delivered as part of the wider training uplift program that has been undertaken, which has included: <ul style="list-style-type: none"> • Introduction Skills Maintenance and Simulation (SMS) Training sessions in June/July 2022, utilising newly developed Dispatch Training Simulator. Delivering simulation training on WA System restart, in addition to a multiple contingency condition event. • Follow up SMS through October – December, will cover other priority training areas including SCADA failure and Summer readiness topics. Furthermore, aligning East and West Coast training practices will support the sharing of knowledge, lessons learnt, and facilitate continuous improvement between both coasts.	Compliance Rating: Level 2 Risk Rating: Medium (Likelihood: Unlikely; Consequence: Moderate)	Management should introduce Planning Workshops (or alternative mechanism) for WEM PSO staff to ensure training is relevant and meaningful. The Training team should leverage practices undertaken by the East Coast to support alignment, including consideration of: <ul style="list-style-type: none"> • Frequency of Workshops held • Attendees • Inputs and priority training areas for consideration. 	Management Response AEMO agrees with this finding and the recommendations. Implementation Date 31 March 2023	Status: Closed The WEM Training Planning workshop was held on 2 March 2023. During the course of the Planning Workshop, the training priorities, needs and objectives for SMS 1 2024 were discussed and established.

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY23 Status
		<p>Where the specific objectives and the target audience of training programs are unclear, or prioritisation of training is not in line with operational requirements or management objectives, there is an increased risk of deterioration in RTO Operators' skills and competency to operate the markets safely and reliably.</p> <p>In addition, AEMO may not be able to demonstrate that PSO staff were appropriately trained in the event of an incident.</p>				
22 WEM 8	<p>Issue Type Control improvement opportunity reported by PwC</p> <p>Obligation WEM Rule 4.24.1</p>	<p>AEMO should define and document the minimum factors and thresholds considered by management for determining if Supplementary Reserve Capacity is required</p> <p>As per WEM rule 4.24.1, if at any time after the day which is six months before the Capacity Year AEMO considers that, in its opinion, inadequate Reserve Capacity will be available in the SWIS to maintain Power System Security and Power System Reliability, using the most recent Long Term PASA study, AEMO must determine the timeline and expected amount of the shortfall.</p> <p>AEMO's Reserve Capacity team has established a Market Procedure, <i>Supplementary Reserve Capacity</i> which outlines key processes to be undertaken throughout the Supplementary Reserve Capacity lifecycle, including steps to determine the amount of SRC required and associated timeframe.</p> <p>Through discussion with management, it was noted that the following factors (amongst others) will be considered on an ongoing basis to determine if there is inadequate Reserve Capacity:</p> <ul style="list-style-type: none"> • Outputs from Medium Term Projected Assessment of System Adequacy Reporting and the Electricity Statement of Opportunities • Bid stack behaviour • Performance indicators from Equivalent Planned Outage Hours (EPOH) monitoring • Expected forced outages. <p>Whilst it is noted that these factors (amongst others) are considered in real-time by management, this criteria is not formally defined by AEMO in a policy or procedure.</p> <p>Implication</p> <p>Where AEMO determines informally that nothing has come to its attention that Supplementary Reserve Capacity is required for the respective period, there is increased difficulty for AEMO to evidence the factors they have considered in coming to their final determination.</p> <p>Should there be a requirement for Supplementary Reserve Capacity in a period where AEMO has determined that they did not require Supplementary Reserve Capacity, there</p>	<p>Compliance Rating: Level 3</p> <p>Risk Rating: Low (Likelihood: Unlikely; Consequence: Major)</p>	<p>Management should define and document the criteria, including key factors and thresholds (where applicable) that would trigger an assessment for determining if Supplementary Reserve Capacity is required.</p>	<p>Management Response AEMO agrees with this finding and the recommendations.</p> <p>Implementation Date 31 March 2023</p>	<p>Status: Closed</p> <p>Reserve Capacity have documented the criteria, key factors and thresholds that would trigger an assessment for SRC in the working instruction <i>Triggering a Supplementary Reserve Capacity Review</i>.</p>

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY23 Status
		is an increased risk that evidence to support decisions (and in rare cases, dispute resolution) will be difficult to source.				
22 WEM 9	Issue Type Control design issue reported by PwC Obligation WEM Rules 2.37.1 (Credit Limits), 2.42.1 (Margin Calls)	<p>AEMO should clearly define and retain evidence of steps to be taken following a Market Participant exceeding their Trading Limit</p> <p>In accordance with clause 2.37.1 and 2.42.1 of the Rules, AEMO must determine a Credit Limit for all Participants who trade in the WEM; and AEMO may issue a Margin Call Notice where a Market Participant's Trading Margin (a function of the Credit Limit) is less than zero.</p> <p>To support compliance with these requirements, AEMO has developed an internal procedural document, <i>Internal Procedures and Working Instructions</i>. The procedure requires that where a participant reaches 90% of their Trading Limit, AEMO must notify the participant and monitor trading activity, and where a participant exceeds their Trading Limit, AEMO may issue a Margin Call Notice.</p> <p>Throughout FY22, there were 78 instances across 12 Market Participants where participants reached 90% of their Trading Limit, and 16 instances across 5 Market Participants where Trading Limits were exceeded. No Margin Call Notices were issued for the period.</p> <p>Evidence should be retained to demonstrate key decisions taken by AEMO after a Market Participant exceeds their Trading Limit</p> <p>When a Market Participant exceeds their Trading Limit, the Prudentials team are to make a determination on how to proceed, whether it be through the issuance of a Margin Call Notice or an Informal Request for additional Credit Support to mitigate the negative Trading Margin.</p> <p>Sample testing of one (1) out of four (4) instances during FY22 where a participant exceeded their Trading Limit on 10 August 2021 noted:</p> <ul style="list-style-type: none"> • Evidence was not retained to support the analysis of the actual Market Exposure of the participant, as required by Section 4, Step 1 of the Internal Procedures and Working Instructions, and • Evidence was not retained of approval from the GM, WA Markets to issue an Informal Request for additional Credit support in lieu of a Margin Call Notice (as required by Section 4.2 of Internal Procedures and Working Instructions). <p>In addition, discussion with management noted that a broad range of factors are considered in determining whether a Margin Call Notice, and that the decision is at the discretion of the Prudential Analyst with approval from the Manager and GM, WA Markets. While management was able to articulate some of the key factors considered in reaching a determination, these were not formally defined or documented in the <i>Internal Procedures and Working Instructions</i>.</p>	<p>Compliance Rating: Level 2</p> <p>Risk Rating: Low</p> <p>(Likelihood: Unlikely; Consequence: Minor)</p>	<p>Management should:</p> <ol style="list-style-type: none"> 1. Communicate to relevant staff the requirement to retain evidence of analysis and approval of decisions made where a participant exceeds their trading limit. 2. Update the <i>Internal Procedures and Working Instructions</i> to capture key considerations for determining under what circumstances a Margin Call Notice should be issued (noting that the considerations are not exhaustive and a decision is ultimately made at the discretion of AEMO). 3. Update <i>Internal Procedures and Working Instructions</i> to address any internal inconsistencies and reflect current practices. 	<p>Management Response AEMO agrees with this finding and the recommendations.</p> <p>Implementation Date 31 December 2022</p>	<p>Status: Closed</p> <p>The Work Instruction, <i>Prudential Monitoring</i>, has now been updated to:</p> <ul style="list-style-type: none"> • Capture the key considerations for determining under what circumstances a Margin Call Notice should be issued. • Address internal inconsistencies. • Define a process to retain evidence of analysis and approval of decisions made where a participant exceeds their trading limit.



No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status	FY23 Status
		<p>Internal Procedures and Working Instructions requires updating to address internal inconsistencies and reflect actual practices.</p> <p>Per the <i>Internal Procedures and Working Instructions</i>, where a Participant has exceeded its Trading Limit on a business day as at 11am (during the Prudential calculation), "the Participant is generally given until 2pm of the same day ... to provide additional Prepayments/Credit</p> <p>Support to mitigate the negative Trading Margin prior to further action potentially being taken by AEMO before 4pm".</p> <p>Discussion with management indicated that "generally" is typically interpreted as within 1-2 business days.</p> <p>In contrast, Section 4 of the <i>Internal Procedures and Working Instructions</i> requires that all steps must be taken before 4pm on the day of the Trading Margin breach. However, the 4pm deadline is unachievable if the 2pm deadline is completed in subsequent business days, creating an internal inconsistency within the procedure.</p> <p>Implication</p> <p>Where evidence is not retained to support analysis and approvals made by AEMO regarding Margin Call Notices there is an increased risk that, in the event of a participant defaulting, AEMO may not be able to provide justification for key determinations made.</p> <p>In addition, where there are internal inconsistencies or inaccuracies within the <i>Internal Procedures and Working Instructions</i>, there may be differences in AEMO's response to a participant exceeding their Trading Limit.</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
22 WEM 19	Appendix 2, Step 1.1	Incorrect calculation of spinning reserve costs due to using assumed rather than actual synchronisation data. One participant was affected by an estimated \$6,900.	Level 1	Low	Yes	794	Closed

Appendix B.5 – Information Technology – Summary of findings

There were 6 Medium and 5 Low rated new Information Technology findings reported by PwC in FY23, and 6 Medium and 3 Low rated findings raised in FY22 that remain open. 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 (4 Medium), physical access (1 Medium), IT operations (1 Medium, 4 Low) and change management (1 Low). No findings were identified regarding program development.

Three Information Technology findings raised in FY22 were closed in FY23. These related to logical access (2 Medium) and IT operation (1 Low).

Appendix 3 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 2023, in respect of AEMO's internal control procedures, including procedures within AEMO's software systems for the WA Gas Bulletin Board and the calculation of GSI Fees, in relation to compliance, in all material respects, with the Gas Services Information Rules version 30 October 2021 to version 1 December 2022 (the "GSI Rules").

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.

PricewaterhouseCoopers, ABN 52 780 433 757
Brookfield Place, 125 St Georges Terrace, PERTH WA 6000, GPO Box D198, PERTH WA 6840
T: +61 8 9238 3000, F: +61 8 9238 3999, www.pwc.com.au

Liability limited by a scheme approved under Professional Standards Legislation.



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 testing to validate 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.

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 conclusion.

Scope exclusions

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

- information technology general controls (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 processes for software management, the criteria used to evaluate compliance was AEMO's internal control procedure documents relating to ITGCs. Procedures were therefore limited to testing of ITGCs. 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 GSI systems.

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 work is based primarily on information supplied by management and was carried out on the basis that such information is accurate and complete.

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.

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.

Conclusion

Based on the procedures performed and evidence obtained, 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 2023.

A stylized, handwritten signature of the PricewaterhouseCoopers firm.

PricewaterhouseCoopers

A handwritten signature of Sian Ashdown.

Sian Ashdown
Partner

Perth
12 October 2023



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 FY23. This includes findings reported by AEMO management or through our procedures. The items included in the table below comprise of 2 market-related non-compliances with the GSI Rules, 2 market-related control observations and 19 IT-related observations.

	Critical	High	Medium	Low
Level 1	0	0	6	5
Level 2	0	0	6	6
Level 3	0	0	0	0
Total	0	0	12	11

The table below summarises findings from prior periods which have been closed during FY23. These include 1 market-related non-compliance with the GSI Rules and 3 IT-related observations.

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

All findings in the tables above have been agreed with management and formally reported to AEMO's Finance Risk and Audit Committee. Further details of the findings are provided within Appendix B.

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 2022 to 30 June 2023

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status
23 GSI 1	Issue Type Control design issue reported by PwC Obligation Multiple	<p>AEMO's register of obligations within the Gas Services Information (GSI) Rules is incomplete</p> <p>The GSI Rules detail the roles and functions of various parties and govern the operation of the Gas Bulletin Board (GGB) 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").</p> <p>Inspection 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.</p> <p>In addition, of the 231 obligations recorded in the registers:</p> <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. <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>Compliance Rating: Level 2</p> <p>Risk Rating: Medium</p> <p>(Likelihood: Possible; Consequence: Minor)</p>	<p>Management should:</p> <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 activities. This should prioritise higher risk obligations. Review key control descriptions to verify that they adequately describe activities performed to support compliance with obligations. 	<p>Management Response</p> <p>AEMO agrees with this finding and the recommendations.</p> <p>Implementation Date</p> <ol style="list-style-type: none"> Assigning ownership and controls – 30 June 2024 Review of key control descriptions – 30 September 2024

No.	Issue type & Obligation	Finding and implication	Compliance & risk rating	Recommendation	Management Comments/ Implementation Status
23 GSI 2	Issue Type Control operating issue reported by PwC Obligation GSI Rules 21-50	<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.</p> <p>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 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: Level 2</p> <p>Risk Rating: Low (Likelihood: Unlikely; Consequence: Minor)</p>	<p>Management should review the internal work instructions and update (where appropriate) to reflect the requirement of completing the registration checklists. Once completed, management should communicate any updates made to the work instructions, including reiterating the importance of completing the registration checklists.</p>	<p>Management Response</p> <p>AEMO agrees with this finding and the recommendations.</p> <p>Implementation Date</p> <p>31 March 2024</p>



Appendix B.2 – Gas Services Information – Findings reported by Management – 1 July 2022 to 30 June 2023

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
23 GSI 3	GSI Rule 111A(1)(b)	AEMO's 2022 WA Financial Report was published 18 days past the deadline in the rules. This was due to additional requirements for the report released 5 weeks before it was due for publication.	Level 1	Low	Yes	809	Closed
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 cash flows and a forecast statement of financial position).	Level 1	Low	Yes	858	Open - not yet due



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	FY23 Status												
22 GSI 1	Issue Type Non-compliance reported by PwC Obligation GSI Rule 119(1)(a)	Adjustments for GSI Fees have not been recalculated within the required ten business days of period end In accordance with GSI Rule 117(1), AEMO is required to issue a GSI invoice to each Registered Shipper within 30 business days of the end of each period. The GSI Invoice Period is defined as the three month period starting on 1 January, 1 April, 1 July, and 1 October each year. The GSI invoice comprises of: Initial GSI Fees, which are to be recalculated within 30 Business Days of the end of that period (GSI Rule 117(1)(a)) Adjustment GSI Fees, which are to be recalculated for a GSI Invoice period within 10 Business Days after the end of period p+4 (i.e. 1 year later) (GSI Rule 119(1)(a)). Sample testing for the GSI invoice period starting 1 January 2022 (Q1 2022) identified that the Adjustment Fees for (Q1 2021) were calculated 16 business days late in line with GSI Rule 119(1)(a): <table><tr><th>GSI Fee recalculation required</th><th>End period date</th><th>Due date</th><th>Date calculation was performed</th></tr><tr><td>Initial GSI Fees</td><td>31 March 2022</td><td>17 May 2022</td><td>11 May 2022 (no exception noted)</td></tr><tr><td>Adjustment GSI Fees</td><td>31 March 2021</td><td>14 April 2022</td><td>11 May 2022 (exception noted)</td></tr></table> Management noted that the GSI Fee Calculation Model, which calculates both the Initial and Adjustment GSI Fees, was run only once for the Q1 2022 Invoices, and that management's process operates such that GSI Fee Calculation Model calculates the Initial and Adjustment GSI Fees simultaneously for each GSI Invoice Period. Further, invoices outlining both initial and adjustment GSI fees were subsequently issued in line with the GSI Rules. Notwithstanding, the delayed calculation of the Adjustment GSI Fees that are included in the invoice represents a technical non-compliance with the GSI Rule 119(1)(a). Implication Management confirmed that no complaint or feedback has been received by any Register Shippers in relation to this matter. This issue represents a minor non-compliance with the GSI Rules and did not impact any Registered Shippers or have an operational impact on the Gas Bulletin Board (GBB).	GSI Fee recalculation required	End period date	Due date	Date calculation was performed	Initial GSI Fees	31 March 2022	17 May 2022	11 May 2022 (no exception noted)	Adjustment GSI Fees	31 March 2021	14 April 2022	11 May 2022 (exception noted)	Compliance Rating: Level 1 Risk Rating: Low (Likelihood: Unlikely; Consequence: Immaterial)	Management should raise a 'management-identified non-compliance', noting the reasoning for the intentional non-compliance.	Management Response AEMO agrees with this finding and the recommendations. Implementation Date 31 December 2022	Status: Closed
GSI Fee recalculation required	End period date	Due date	Date calculation was performed															
Initial GSI Fees	31 March 2022	17 May 2022	11 May 2022 (no exception noted)															
Adjustment GSI Fees	31 March 2021	14 April 2022	11 May 2022 (exception noted)															



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

There were no open prior period findings reported by Management for Gas Services Information.

Appendix B.5 – Information Technology – Summary of findings

There were 6 Medium and 5 Low rated new Information Technology findings reported by PwC in FY23, and 5 Medium and 3 Low rated findings raised in FY22 that remain open. 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 (4 Medium), physical access (1 Medium), IT operations (1 Medium, 4 Low) and change management (1 Low). No findings were identified regarding program development.

Three Information Technology findings raised in FY22 were closed in FY23. These related to logical access (2 Medium) and IT operations (1 Low).

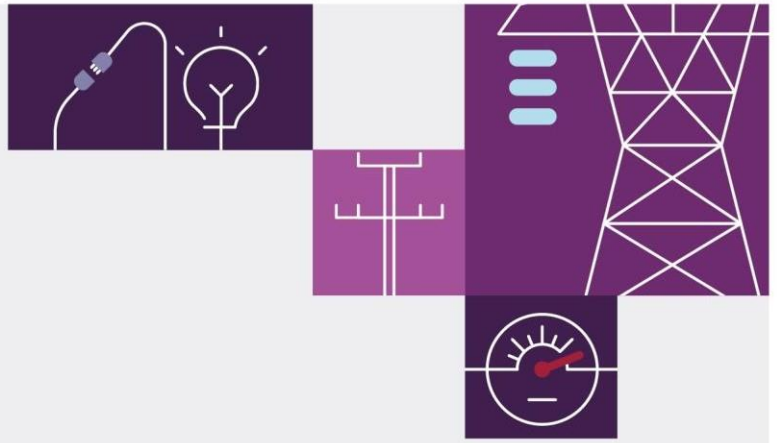
Appendix 4 AEMO's response to the audits

AEMO Response to WEM & GSI Market Audit Reports

October 2023

For audit period 1 July 2022 to
30 June 2023





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 2022 to 30 June 2023, as at the date of publication.

Disclaimer

This document or the information in it may be subsequently updated or amended. This document does not constitute legal or business advice and should not be relied on as a substitute for obtaining detailed advice about the Wholesale Electricity Market, the Wholesale Electricity Market Rules, the Gas Services Information Rules, or any other applicable laws, procedures or policies. AEMO has made every effort to ensure the quality of the information in this document but cannot guarantee its accuracy or completeness.

Accordingly, to the maximum extent permitted by law, AEMO and its officers, employees and consultants involved in the preparation of this document:

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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 2022 to 30 June 2023.

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 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.