



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.

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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-style 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	AEMO's register of obligations within the Gas Services Information (GSI) Rules is incomplete The GSI Rules detail the roles and functions of various parties and govern the operation of the Gas Bulletin Board (GBB) and preparation of the Gas Statement of Opportunities (GSOO). AEMO has identified 231 obligations within the GSI with which they must comply, which have been recorded in multiple spreadsheets ("the registers" or "the obligations registers"). 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. In addition, of the 231 obligations recorded in the registers: - 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. 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). 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. Implication 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.	Compliance Rating: Level 2 Risk Rating: Medium (Likelihood: Possible; Consequence: Minor)	Management should: - 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.	Management Response AEMO agrees with this finding and the recommendations. Implementation Date - 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	Internal checklists for facility registration, deregistration and registration exemption were not completed in line with internal procedures 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. AEMO has developed internal work instructions, which outline the key activities to be undertaken by AEMO prior to granting a facility registration, deregistration or exemption. These are all supported by a checklist, which is to be completed as part of each assessment. Through sample testing of one (1) registration, one (1) deregistration, and one (1) registration exemption assessed by AEMO in FY23, it was noted that the checklists were not completed and/or retained by the respective Market Analysts. 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. 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. Implication 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.	Compliance Rating: Level 2 Risk Rating: Low (Likelihood: Unlikely; Consequence: Minor)	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.	Management Response AEMO agrees with this finding and the recommendations. Implementation Date 31 March 2024



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).