



Independent review report to the Board of Directors of the Australian Energy Market Operator Limited (AEMO) for the Victorian Declared Wholesale Gas Market

Scope

In accordance with our contract effective 1 January 2016, we have reviewed the Australian Energy Market Operator Limited (AEMO) internal control procedures in relation to compliance with Part 19 of the National Gas Rules for the Victorian Declared Wholesale Gas Market, for the year ended 30 June 2016, in the following areas:

- metering and settlements
- billing and information systems
- scheduling and pricing processes
- processes for software management
- the linepack account
- compliance with Part 19 of the National Gas Rules.

AEMO Management's Responsibilities

AEMO Management is responsible for maintaining an effective internal control structure, including control procedures in relation to the Victorian Declared Wholesale Gas Market. This responsibility includes establishing and maintaining internal controls relevant to compliance with the National Gas Rules (NGR) and the preparation and fair presentation of information that is free from material misstatement.

PwC's Responsibilities

Our responsibility is to express a conclusion based on our limited assurance procedures, on whether anything has come to our attention to indicate that the AEMO internal control procedures in relation to the areas listed under the Scope section above, have not been, in all material respects, effectively designed and operated, in order to comply with the relevant criteria outlined in:

- National Gas Rules, Part 19 'Declared Wholesale Gas Market Rules' Divisions 1 to 9 – Version 27 (May 2015) to Version 29 (March 2016).

In determining compliance with the criteria above, we have also considered the following AEMO documents:

- Gas Scheduling Procedures Version 2.0 (May 2015)
- Administered Pricing Procedures Version 2.1 (May 2015)
- System Security Procedures Version 1.1 (December 2015)
- Physical Security Management Plan (January 2016)
- Access Control and Authentication Standard Version 1.2
- Logging and Log Management Standard Version 1.2
- Backup Standard Version 1.2
- AEMO Patch Management Standard Version 1.2
- IT Change Management Policy Version 1.0
- Incident Management Policy Version 1.0.

Our limited assurance 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 to provide limited assurance that AEMO has complied with the specific assurance criteria for each gas market. The work performed was designed to enable us to express the conclusion below. Accordingly, we have conducted such tests and procedures as we considered appropriate, including:

- inquiry and observation of staff and management to understand the operation of controls
- review of relevant AEMO policies, procedures and user manuals
- undertaking procedures to evaluate the design effectiveness of key controls
- performing limited sample testing to validate the operating effectiveness of key controls.

Scope exclusions

Our review did not include application and IT controls over systems that are operated by external organisations, the compliance with Service Level Requirements, or the control procedures in place at those agencies not controlled by AEMO, specifically:

- Liquefied Natural Gas System
- Allocation algorithm system
- Allocation Agencies
- Meter Data Agents
- Real time systems
- Retailers and Distributors.

It is assumed that the data received by AEMO from Distributors in relation to metering data is complete, accurate and valid. Our scope was limited to the procedures AEMO perform over validating the reasonableness of this data.

It is assumed that automated pricing, gas scheduling and settlement calculations are consistent with the NGR. Our scope did not include certification of the Market Clearing Engine (MCE), Demand Forecasting System (DFS), Metering Management and Settlements System (MMS), or other market systems.

We accept no responsibility for the adequacy or accuracy of work performed by the Certifier. We accept no liability to AEMO or to any other person, for any part of our review report that relies on or assumes the adequacy of, work undertaken by the Certifier.

Use of Report

This report has been prepared for distribution to the Board of Directors of AEMO. We disclaim any assumption of responsibility for any reliance on this report to any other person other than the Board of Directors, or for any purpose other than that for which it was prepared.

Inherent limitations

Because of the inherent limitations of any internal control system, there is the possibility of management override of controls, non-compliance, misstatements due to error or fraud 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 is substantially less in scope than a reasonable assurance engagement. A limited assurance engagement is not designed to detect all weaknesses in the internal compliance and control system as it is not performed continuously throughout the reporting period and any testing is performed on a sample basis. Also a limited assurance engagement does not provide all the evidence that would be required in a reasonable assurance engagement (an audit), thus the level

of assurance is less than that given in an audit. We have not performed an audit and, accordingly, we do not express an audit opinion.

Any projections of any evaluation of the internal compliance and control system to future periods is subject to the risk that the internal compliance and control system may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Materiality

We have considered materiality when evaluating the effect of identified control weaknesses on our conclusion. Materiality is considered in the context of AEMO's objectives relevant to the area of activity being examined. 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 economic, social, political and environmental impact of control weaknesses
- 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.

Summary of Findings

The table below summarises findings reported which remain open as at 30 June 2016. This includes findings reported by AEMO management or through our review procedures.

	Critical	Significant	Medium	Low
Level 1	0	0	2	0
Level 2	0	0	6	5
Level 3	0	0	0	2
Total	0	0	8	7

The table below summarises findings from prior periods or this period which have been closed during FY16.

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

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 Risk and Audit Committee.

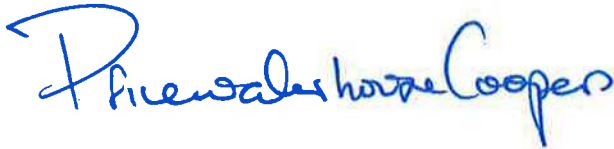
The ratings have been tailored to reflect the potential impact on the gas market as follows:

Risk Rating	Definition
Critical	Findings which may have a catastrophic impact on the gas market operations if they are not addressed immediately and require executive action with regular reporting at Board level.
Significant	Findings which may have a major impact on the gas 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 gas 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 gas 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. (Breach)
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. These should generally be addressed within one to two months. (Improvements in AEMO's controls to prevent a potential breach)
Level 3	Housekeeping matters and opportunities for improving internal controls and procedures relating to gas market operations. These should be addressed within three to six months. (Better controls but not critical to prevent a breach)

Conclusion

Based on our review, which is not an audit, nothing has come to our attention, that causes us to believe that the Australian Energy Market Operator did not maintain, in all material respects, effective control procedures in relation to the Victorian Declared Wholesale Gas Market for the year ended 30 June 2016, based on the scope referred to above.



PricewaterhouseCoopers



Matthew Hunt

Partner

Melbourne

4 October 2016