ASAE 3402

Assurance Report on Controls at a Service Organisation relating to the Austraclear system

1 JULY 2023 – 30 JUNE 2024

Contents

1 / Statement by ASX as the Service Organisation

The accompanying description provided by ASX management in this report has been prepared for participants who have used the Austraclear system ('Austraclear', formerly known as EXIGO) (Participants) and their auditors who have a sufficient understanding to consider the description, along with other information (including information about controls operated by Participants themselves), when assessing the risks of material misstatement of Participants' financial reports / statements. ASX confirms that:

(a) The accompanying description in Sections 5, 7 and 9 fairly presents Austraclear ('Austraclear' or 'system') for processing Participants' transactions throughout the period 1 July 2023 to 30 June 2024.

The criteria used in making this statement were that the accompanying description:

(i) presents how the system was designed and implemented, including:

- the types of services provided including, as appropriate, classes of transactions processed
- the procedures, within both information technology and manual systems, by which those transactions were initiated, recorded, processed, corrected as necessary, and transferred to the reports prepared for Participants
- the related accounting records, supporting information and specific accounts that were used to initiate, record, process and report transactions; this includes the correction of incorrect information and how information was transferred to the reports prepared for Participants
- how the system dealt with significant events and conditions, other than transactions
- the process used to prepare reports for Participants
- relevant control objectives and controls designed to achieve those objectives
- controls that ASX assumed, in the design of the system, would be implemented by Participants, and which, if necessary to achieve control objectives stated in the accompanying description, are identified in the description along with the specific control objectives that cannot be achieved by ASX alone, and
- other aspects of the ASX control environment, risk assessment process, information system (including the related business processes) and communication, control activities and monitoring controls that were relevant to processing and reporting Participants' transactions.

(ii) includes relevant details of changes to Austraclear during the period 1 July 2023 to 30 June 2024, and

(iii) does not omit or distort information relevant to the scope of the system being described, while acknowledging that the description is prepared to meet the common needs of a broad range of Participants and their auditors and may not, therefore, include every aspect of the system that each individual Participant may consider important in its own particular environment.

(b) The controls related to the control objectives stated in the accompanying description were suitably designed and operated effectively throughout the period 1 July 2023 to 30 June 2024. The criteria used in making this statement were that:

(i) the risks that threatened achievement of the control objectives stated in the description were identified

(ii) the identified controls would, if operated as described, provide reasonable assurance that those risks did not prevent the stated control objectives from being achieved, and

(iii) the controls were consistently applied as designed, including that manual controls were applied by individuals who have the appropriate competence and authority, throughout the period 1 July 2023 to 30 June 2024.

Signed on behalf of management

Signed by:
Clive Triance
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Clive Triance

Group Executive, Securities and Payments

25 July 2024

2 / Independent Service Auditor's assurance report on the description of controls, their design and operating effectiveness

To: Directors of ASX Limited

Scope

In accordance with the terms of the engagement letter dated 01 February 2024, we were engaged to report on ASX Limited's (ASX) description in Sections 5, 7 and 9 of its Austraclear system (System) for processing Participants' transactions throughout the period 1 July 2023 to 30 June 2024 (the description), and on the design and operation of controls related to the control objectives stated in the description.

The description indicates that certain control objectives specified in the description can be achieved only if complementary user entity controls contemplated in the design of ASX's controls are suitably designed and operating effectively, along with related controls at the service organisation. We have not evaluated the suitability of the design or operating effectiveness of such complementary user entity controls.

ASX's Responsibilities

ASX is responsible for: preparing the description and accompanying statement in Section 1, including the completeness, accuracy and method of presentation of the description and statement; providing the services covered by the description; stating the control objectives; and designing, implementing and effectively operating controls to achieve the stated control objectives.

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.

Service Auditor's Responsibilities

Our responsibility is to express an opinion on ASX's description and on the design and operation of controls related to the control objectives stated in that description, based on our procedures. We conducted our engagement in accordance with Standard on Assurance Engagements ASAE 3402 *Assurance Reports on Controls at a Service Organisation (ASAE 3402),* issued by the Auditing and Assurance Standards Board. That

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standard requires that we plan and perform our procedures to obtain reasonable assurance about whether, in all material respects, the description is fairly presented and the controls are suitably designed and operating effectively.

An assurance engagement to report on the description, design and operating effectiveness of controls at a service organisation involves performing procedures to obtain evidence about the disclosures in the service organisation's description of its System, and the design and operating effectiveness of controls. The procedures selected depend on our judgement, including the assessment of the risks that the description is not fairly presented, and that controls are not suitably designed or operating effectively. Our procedures included testing the operating effectiveness of those controls that we consider necessary to provide reasonable assurance that the control objectives stated in the description were achieved. An assurance engagement of this type also includes evaluating the overall presentation of the description, the suitability of the objectives stated therein, and the suitability of the criteria specified by the service organisation and described in Section 1.

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

Limitations of Controls at a Service Organisation

ASX's description is prepared to meet the common needs of a broad range of Participants and their auditors and may not, therefore, include every aspect of the System that each individual Participant may consider important in its own particular environment. In addition to this, because of their nature, controls at a service organisation may not prevent or detect all errors or omissions in processing or reporting transactions. Further, the projection of any evaluation of effectiveness to future periods is subject to the risk that controls at a service organisation may become inadequate or fail.

Opinion

Our opinion has been formed on the basis of the matters outlined in this report. The criteria we used in forming our opinion are those described in ASX's statement in Section 1. In our opinion, provided Participants have applied the complementary user entity controls contemplated in the design of ASX's System and those controls were operating effectively, in all material respects:

(a) The description fairly presents the System as designed and implemented throughout the period from 1 July 2023 to 30 June 2024.

(b) The controls related to the control objectives stated in the description were suitably designed throughout the period from 1 July 2023 to 30 June 2024.

(c) The controls tested, which were those necessary to provide reasonable assurance that the control objectives stated in the description were achieved, operated effectively throughout the period from 1 July 2023 to 30 June 2024.

Description of Tests of Controls

The specific controls tested and the nature, timing and results of those tests are listed in Section 9.

Other Information

The information included in sections 3, 4, 6 and 8 is presented by the service organisation to provide additional information and is not part of the service organisation's description of controls that may be relevant to Participants' internal control as it relates to financial reporting. Such information has not been subjected to the

procedures applied in the examination of the description of the service organisation and accordingly, we express no opinion on it.

Intended Users and Purpose of the report

Anyone accessing this report is taken to have acknowledged and agreed to the following:

This report and the description of tests of controls in Section 9 are intended only for ASX and Participants who have used ASX's Austraclear system, and their auditors, who have sufficient understanding to consider it, along with other information including information about controls operated by Participants themselves, when assessing the risks of material misstatements of Participants' financial reports / statements.

This report was prepared on the instructions of our client, ASX, in connection with certain of ASX's internal controls. We have no knowledge or understanding of the circumstances or position of each Participant or any other party. Our work was not planned or conducted having regard to the information any party may require regarding ASX's Austraclear system (including the control objectives or controls within the System), or the ways in which they may seek to make use of our report or the accompanying description of tests of controls and we therefore make no representation concerning the appropriateness of this report or the accompanying description of tests of controls for them. Except to the extent set out above, we performed our work and this report is prepared in accordance with the purpose and terms of our engagement by ASX and we accept no responsibility or liability to anyone else (other than the Participants) in connection with it. Anyone else who chooses to use or rely on our reports for their own individual purposes 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; and
- even if we consent to anyone other than ASX and the Participants and their auditors receiving or using this report or the accompanying description of tests of controls.

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PricewaterhouseCoopers

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Scott Hendry

Partner

Sydney

25 July 2024

3 / Introduction

ASX management is responsible for the design, implementation and maintenance of the internal control procedures and for the declarations and assertions in this report. In carrying out this responsibility, management has regard to the interests of participants, the Austraclear Regulations, the general effectiveness of the operation of Austraclear, and the overall stability of the Australian financial system.

This report has been prepared to provide:

- an overview of the ASX Group
- an overview of Austraclear and its role in the clearing and settlement process
- a summary of ASX's corporate governance arrangements relating to the Austraclear operating environment
- the control objectives and control procedures that underpin the Austraclear control environment, and
- the independent auditor's report on the control objectives and control activities supporting those control objectives.

The report has been prepared in compliance with *ASAE 3402 Assurance Reports on Controls at a Service Organisation*.

4 / Overview of the ASX Group

ASX is an integrated exchange offering listings, markets, securities and payments, and technology and data services. It operates markets for a wide range of asset classes including equities, fixed income, commodities and energy and is a top 10 global securities exchange by value and the largest interest rate derivatives market in Asia.

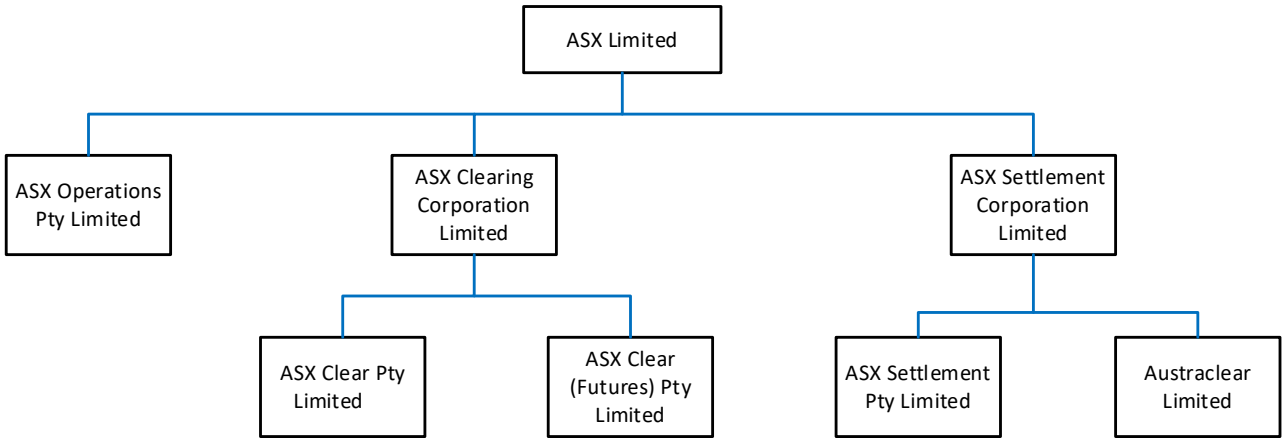
Companies and other issuers of capital from Australia and around the world engage with ASX to manage risk and raise capital to sustain and grow their businesses. ASX operates liquid, transparent and reliable markets of integrity. The certainty and security of its clearing and settlement activities help to underpin the systemic stability of the Australian economy.

ASX also provides data and technology services to intermediaries, banks, information vendors and software developers to help them make informed decisions, offer services to their clients and connect with one another.

More information about ASX can be found at: www.asx.com.au.

Structure

Relevant parts of the ASX Group structure are depicted below:



5 / Overall control environment

Corporate Governance

The control environment within which ASX operates Austraclear is not restricted to the control objectives and procedures outlined in this report.

The ASX Group maintains a high standard of corporate governance and has implemented governance arrangements which are consistent with the ASX Corporate Governance Council's Corporate Governance Principles and Recommendations (4th Edition). An overview of those components of ASX's corporate governance framework which are relevant to the operation of Austraclear is set out below. More information on ASX's corporate governance framework is available on ASX's website and in its Annual Report.

Austraclear is operated by ASX Operations Pty Limited, a wholly-owned ASX Group subsidiary, to fulfil the settlement functions of Austraclear Limited, a clearing and settlement facility licensee. It is one of four clearing and settlement facility licensees in the ASX Group.

The ASX Board relies on the Clearing and Settlement (CS) Boards to provide oversight of the clearing and settlement operations of the clearing and settlement subsidiaries including, the management of clearing and settlement risk, and compliance with the Financial Stability Standards determined by the Reserve Bank of Australia (RBA).

The following table sets out key responsibilities of the CS Boards in relation to risk management:

Operational risk tolerance	Set the operational risk tolerance for the CS facility licensees, and in doing so, have regard to the legitimate business interests of ASX as a provider of capital to the central counterparties.
Risk management framework & internal controls	Review and approve the risk management framework and oversee the adequacy of internal controls, systems and processes for the management of clearing and settlement risks of the CS facility licensees.
Oversee management systems and processes	Oversee management systems and processes for the purpose of: • ongoing compliance with the Financial Stability Standards • ongoing compliance with statutory obligations of the CS facility licensees • management of the CS facility licensees within risk appetite and operational risk tolerances.

Each of the CS Boards is comprised of a majority of directors who are independent non-executives. The Chair is also an independent non-executive director. For each of the CS facility licensees (including ASX Clear and ASX Settlement), there is an additional requirement that their Boards comprise at least 50 percent of the non-executive directors who are not also directors of ASX Limited ('**non-ASX directors**') and that the Chair is a non-ASX director.

These arrangements allow the non-ASX directors of ASX Clear and ASX Settlement to form a quorum and meet separately to consider matters that relate to providing clearing and settlement services to non-ASX affiliated market operators or listing venues, including the consideration of confidential and competitively sensitive information. The non-ASX directors may also meet separately to consider potential intra-group conflicts and any recommendations on the management of those intra-group conflicts.

The Clearing and Settlement Boards' Charter sets out further details regarding their functions and governance.

ASX Limited has established an Audit and Risk Committee (ARC) (comprising independent, non-executive directors of ASX Limited). The ARC also serves as the audit and risk committee of ASX's Clearing and Settlement Boards (including Austraclear) and there is a standing invitation for a representative of the non-ASX directors of ASX's Clearing and Settlement Boards to attend.

ASX Limited and ASX's Clearing and Settlement Boards have established a Technology Committee (comprising independent, non-executive directors of those boards. One member is a non-ASX director of ASX's Clearing and Settlement Boards and the rest of the members are independent non-executive directors of ASX Limited). The Technology Committee assists the CS Boards to review and oversee arrangements for the CS facility licensees to achieve compliance with their statutory obligations as licence holders in relation to technological resources and human resources (with respect to technology) for operating the CS facilities.

The following Committees (comprised of Senior Management) also form an integral part of the overall control environment in which Austraclear operates:

- Risk Committee
- Regulatory Committee
- Technology Management Committee
- Executive Team,
- Monthly and Quarterly Business Reviews (Enterprise wide) and
- Portfolio Business Review

Each clearing and settlement facility licensee has a lead business executive (each, a CS Lead Executive) responsible for the operation of the facility, and for the achievement of strategies and objectives for the facility as determined by the relevant ASX Clearing and Settlement Board. The Group Executive, Markets is a CS Lead Executive for ASX Clear (Futures) and the Group Executive, Securities and Payments is a CS Lead Executive for Austraclear, ASX Settlement and ASX Clear.

ASX's Enterprise Compliance function conducts oversight of the ASX Group and provides quarterly reports to the Risk Committee, Regulatory Committee, Audit and Risk Committee, Clearing and Settlement Boards and a meeting of non-ASX directors of Clearing and Settlement Boards in relation to regulatory compliance matters.

Charters of the ASX Board, Clearing and Settlement Boards, ARC, and the Technology Committee are available on ASX's website: www.asx.com.au.

Risk Management

ASX has an established enterprise risk management framework that supports ASX's approach to risk management, and encompasses risk appetite, risk culture and behaviours, and supporting frameworks and processes governing risk identification and assessment, treatment, monitoring and reporting.

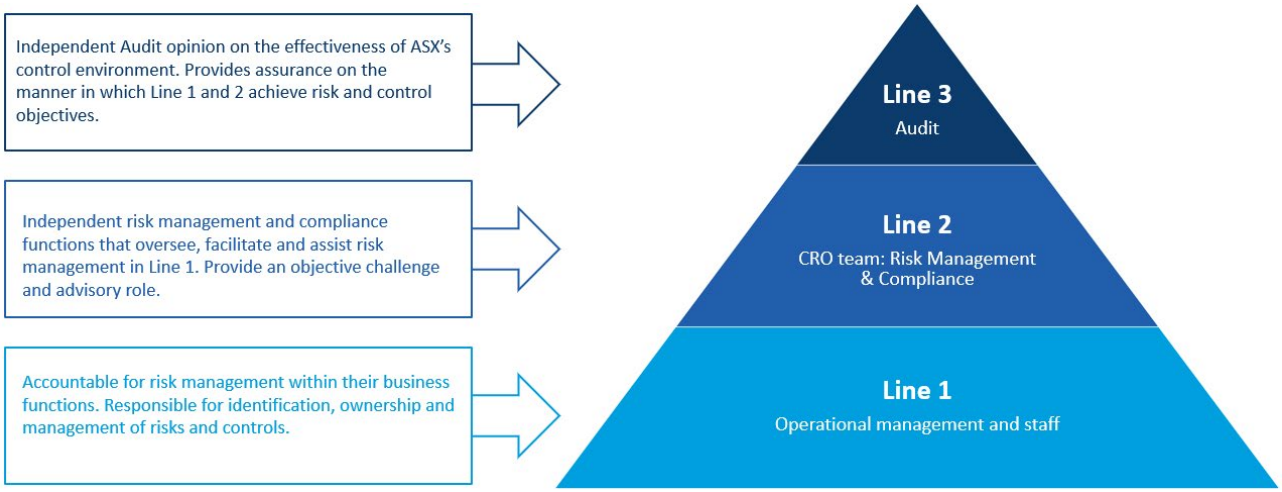
ASX's enterprise risk management function has day-to-day responsibility for implementation of the enterprise risk management framework. The ARC reviews the enterprise risk management framework annually.

ASX's enterprise risk management framework is founded on the Three Lines of Defence model, which sets out clear roles and responsibilities for managing risks and controls across the organisation.

The Three Lines of Defence are as follows:

- **Line 1** is risk management within the business divisions and functions, including the identification, assessment, monitoring, reporting and escalation of risks.
- **Line 2** is the independent risk management and compliance functions that develop risk and compliance frameworks and policies and oversee and challenge risk management in Line 1. This includes the Enterprise Risk and Enterprise Compliance functions that report to the CRO.
- **Line 3** is the independent assurance function (including Internal Audit).

Figure 2 Graphical representation of the Three Lines of Defence within the ASX organisational structure



The identification and assessment of risks relating to the resilience, reliability, integrity, and security of Austraclear are addressed as part of this overarching risk management framework.

Internal Audit

Internal Audit is an independent assurance function. Its role is to provide the ASX Limited Board, CS Boards and management with assurance that ASX has effective, adequate and efficient internal controls in place to support the achievement of its objectives, including the management of risk. It also provides advice on ASX's internal controls and business processes.

The Internal Audit function provides regular reports to management, the ARC and the CS Boards on key findings from internal audits and the implementation status of agreed internal audit recommendations. Management remains responsible for risk management and the operation and enhancement of internal controls, as well as for implementing agreed internal audit recommendations.

The General Manager, Internal Audit reports to the CFO for administrative purposes and has a direct reporting line to the Chair of the ARC in relation to the performance of the Internal Audit function. The General Manager, Internal Audit also has direct access to the CS Boards.

The Internal Audit function has its own charter that sets out its objectives, role, responsibilities, authority and accountability. The charter is published on the ASX website.

Regulatory Governance

Licensed entities in the ASX Group are subject to review by ASIC and the RBA.

6 / Overview of Austraclear environment

Austraclear Limited operates a securities settlement facility and central securities depository (CSD) for debt securities traded in the OTC market. The CSD provides settlement and depository services for a wide range of financial instruments, including fixed income securities, foreign exchange confirmations and short-dated money market instruments (bills, certificates of deposits and promissory notes).

Austraclear offers participants true delivery versus payment, exchanging cash for securities irrevocably and in real-time via a process called Delivery versus Payment (DvP).

Austraclear also provides a real time cash transfer facility which enables payments to and from ASX's central counterparties, including margin payments relating to derivative and futures positions and transactions relating to ASX's collateral management service.

Austraclear authorises participants such as banks, custodians, institutional investors, settlement agents and others to access Austraclear and settle trades made by themselves or on behalf of their clients.

CSD functions include a full range of registry, issuing and payment services for all corporate actions over a security's lifecycle.

Austraclear also offers settlement services for foreign currency payments, currently covering payments denominated in Chinese renminbi (RMB) and US dollars (USD). The services are segregated from Austraclear's Australian dollar (AUD) services.

Other services include Euroentitlements and Issuing and Paying Agency (IPA).

The Euroentitlement service gives participants access to investment grade A$ denominated securities deposited with international CSDs (e.g. Clearstream). It allows participants to settle A$ denominated Eurobonds within Austraclear in the same manner as a domestic security.

Austraclear Limited, via its IPA service, can undertake for issuers, the full range of corporate actions relating to the life cycle of a security, from origination to maturity. Actions include deposit/lodgement of securities, payments, coupon and maturity payments and the transfer of ownership.

Regulation

Austraclear Limited is a licensed CS facility under the Corporations Act and must comply with the Financial Stability Standards (FSS) published by the RBA. In addition, as a CS facility licensee, it must:

- to the extent that it is reasonably practicable to do so, do all other things necessary to reduce systemic risk
- to the extent that it is reasonably practicable to do so, do all things necessary to ensure that the facility's services are provided in a fair and effective way, and
- have an adequate arrangement for supervising the facility.

Transaction processing

Settlement transactions are initiated by either Austraclear participants or ASX by entering a trade in Austraclear. Trades are two sided transactions, matched between the participant and the counterparty to the trade. Each matched transaction will generate a settlement instruction and, when required, a cash payment instruction will be sent to RBA RITS for real time gross settlement and processing through the relevant Exchange Settlement Account with the RBA.

In March 2021, Austraclear linked settlement functionality was made available to participants on an optional basis. This allows them to link a group of eligible transactions in a Linked Settlement Group for simultaneous settlement by transfer

of the net amount of cash and securities for all transactions in that group. At this time, linked settlement functionality is offered on a bi-lateral basis only and requires the same two participants to be a party to all transactions in the Linked Settlement Group. Both participants will be required to agree to the Linked Settlement Group for it to proceed to simultaneous settlement.

Austraclear also interfaces with other external applications for accepting transactions (e.g. transactions performed as part of ASX's Collateral Management Service – refer to www.asx.com.au for additional information).

Processing errors are either flagged by Austraclear or identified by ASX via operational monitoring of the system and transaction reports. Once identified, errors follow a defined escalation path.

The system is available from 6:00am and closes at 7:00pm (9:00pm daylight savings time).

7 / Overview of Austraclear operations

The primary division that has direct control over the operational governance of Austraclear is the Securities and Payments Line of Business (S&P LoB). The Operations team within the S&P LoB is responsible for the day to day processing of trading, clearing and settlement transactions. The S&P Technology team and the technology shared services teams within the ASX Technology, and the IT Service Management team within the Enterprise Customer and Operations division are responsible for the IT support and development of Austraclear.

The Austraclear operational environment includes processes and controls in the following areas:

- transaction processing
- error resolution and escalation, and
- security and operational resilience
- system operations
- change management
- security, and
- system resilience.

The Securities and Payments Line of Business is headed by the Group Executive, Securities and Payments, ASX Technology is headed by the Chief Information Officer, and the Enterprise Customer and Operations division is headed by the Chief Operating Officer.

The following sections provide an overview of business and IT controls.

Daily settlement in Austraclear

The daily settlement in Austraclear occurs during predefined settlement sessions based on the settlement instructions generated as part of transaction processing, with the cash payments made across RITS, while title is transferred in the Austraclear system. These sessions are monitored by ASX Settlement Operations team.

In case any extensions are required by participants, request must be made to Austraclear Help Desk. ASX Settlement Operations team follows an established procedure for the assessment, approval from RBA prior to actioning of the extension and communication to the market.

On a regular basis, reconciliation of the ASX provided settlement obligations to participants' internal records are performed by the participants. Where variances are noted, ASX should be notified. ASX follows an established incident management process to track these variances to resolution.

Reporting

Austraclear automatically produces a number of reports to participants, including:

- cash reports
- settlement instruction reports (e.g. activity statement, holding statement), and
- holding reports (issuer and participant).

Logical access

ASX has an established enterprise-wide identity and access management policy that is available to all staff. A centralised Identity and Access Management team is responsible for the implementation and operation of controls relating to user

maintenance (i.e. provisioning, changing and de-activating accounts including remote access), password management and the performance of user access reviews for the ASX network, application software, operating systems and underlying databases relevant to Austraclear. In addition, ASX maintains documented procedures and network security mechanisms for the prevention, detection and remediation of a malicious attack.

Change management

Changes relating to Austraclear follow the enterprise-wide change management process that requires all changes to be logged in a centralised IT Service Management (ITSM) tool and approved, tested and monitored through the change life cycle. The process requires all changes to be assessed and signed off by the relevant Technology, Business and Change Approval Board (CAB) representatives prior to implementation, with the exception of those changes designated as standard changes. Standard changes are pre-authorised by the CAB and are very low risk changes that are well understood, repeatable and fully documented in an approved standard template. System and user documentation is updated, as appropriate, for each completed change.

Emergency changes also follow a defined and approved process, however, due to the nature of an emergency change, verbal or email approvals are obtained prior to implementation. Emergency changes may only be initiated if there is a corresponding incident ticket in the ITSM tool. Testing and formal approvals are performed as soon as practical following the change.

ASX maintains separate development, test and production environments for Austraclear as well as segregation of duties between development and production migration and support activities.

Physical security

In addition to the head office in the CBD, there are two data centres – a primary data centre managed by ASX, and a secondary vendor-managed data centre (SDC). The SDC has dedicated and secured areas for ASX infrastructure, office space and control room, over which ASX maintains direct control of physical security. As such, the data centre provider is not considered a sub-service organisation for the purpose of this report.

ASX implements and operates physical security controls at both data centres to ensure access to these data centres is limited to authorised personnel. The controls include access provisioning and removal, regular review of physical access, as well as established policies and procedures, electronic and biometric security devices and CCTV.

Environmental controls

There are environmental control mechanisms in place at both data centres. These are maintained on a regular basis to facilitate continued operation of the systems. Maintenance activities for the primary data centre are managed by ASX, while the vendor manages the maintenance for the SDC. ASX monitors the completion of the maintenance per an agreed schedule.

Disaster recovery

ASX operates using a dual site model for all key operational and technology functions, with one operational site (also the primary data centre) outside of the Sydney CBD and the SDC approximately 30km from the CBD. ASX maintains a Business Continuity Framework and dedicated plan for each key business unit, including those operating Austraclear and scenario(s) are tested at least yearly. A Disaster Recovery (DR) plan is in place for the system with testing conducted annually to ensure the system redundancy, secondary services and fail-over processes remain current and operational, and the system is able to meet the targeted 2 hour recovery timeframe.

In addition, all ASX staff have the ability to work remotely, however some job functions may require an element of physical access to technology assets. Remote access is secured using multi-factor authentication.

IT processing

The following provides a summary of the other key technology processes relating to Austraclear:

- System backup: Austraclear application data is replicated to the secondary data centre in accordance with established policies and procedures. In addition, a regular backup cycle exists with tapes stored in an offsite facility by a specialist third party.
- System monitoring: There is automated monitoring in place for key functions and processing to support the operational integrity of the system with exception reporting and alerting to the relevant support teams for issues and failures. System capacity, performance incidents, operational incidents and system availability is monitored and reported to management on a monthly basis.
- Job scheduling: A number of job schedules exist that are key to the successful processing of transactions in Austraclear. The status of the batch processes is monitored to ensure they are successfully completed. Changes to the schedules require approval prior to being implemented.
- Incident management: Austraclear related incidents are logged and tracked to resolution following the ASX enterprise-wide incident management process.

System change

During the period, there were changes made to the Austraclear environment as part of usual management and support, however there were no changes in processes and controls described above.

Control objectives and control procedures

Set out in this report are the control objectives relevant to the Austraclear system. The controls listed in Section 9 of the report have been designed to achieve each of the control objectives, and any references to the network, application, operating system and database are specific to Austraclear.

Complementary User Entity Controls

Achievement of control objectives 1 and 7 as set out in Section 9 are also dependent on controls performed by participants as well as controls performed by other related party entities. These are known as Complementary User Entity Controls, or CUECs.

Internal controls, no matter how well designed and operated, can provide only reasonable, not absolute, assurance to management of achieving an entity's objectives. All internal control systems are subject to inherent limitations.

Each participant must evaluate its internal controls to determine if appropriate procedures are in place. In order to rely on the controls in this report, the participant's auditors should consider whether the following CUECs are operating.

Ref	Control description	Relevant control objectives in section 9
CUEC 1	Participants are responsible for designing and implementing effective user access management controls to their dedicated sub-participant module within Austraclear. Participants should have controls in place to ensure that access requests to the sub-participant module are authorised.	1
CUEC 2	Participants should have controls in place to ensure that terminated users' access to the sub-participant module are removed in a timely manner.	1

CUEC 3	Participants should have controls in place to ensure that periodic user access reviews are performed to ensure access to the sub-participant module remains commensurate with job responsibilities. Follow up actions should be completed in a timely manner.	1
CUEC 4	Participants should have controls in place to ensure that super user and privileged access to the sub-participant module is restricted and/or monitored.	1
CUEC 5	Participants should have controls in place to ensure that remote access to the Austraclear system is monitored. Monitoring tools should be used to identify unusual events. Any deviations identified should be tracked and remediated.	1
CUEC 6	Participants should have controls in place to ensure that network security measures and incident response plans are in place to safeguard against the threat of malicious attack. Security alerts should be tracked and resolved in a timely manner.	1
CUEC 7	Participants should perform a regular reconciliation of the ASX provided settlement obligations to their internal records. Where variances are noted, ASX should be notified accordingly for investigation and resolution.	7

8 / Requirement for the report

The requirement for and scope of the independent audit is mandated in the Austraclear Operating Rules (known as the Austraclear Regulations). The following table provides the requirements under section 18 of the Austraclear Regulations.

Rule Ref	Title	Content
18.1	Appointment of Auditor	Austraclear must appoint an auditor who will be responsible for conducting an audit of Austraclear's information technology control environment procedures in relation to the System ("Procedures") on a regular basis.
18.2	Scope of Audit	In conducting an audit of the Procedures, the Auditor must at least ascertain that the Procedures: (a) are suitably designed to meet Austraclear's internal control objectives and (b) have operated effectively to provide reasonable assurance that Austraclear's internal objectives were achieved throughout the audit period under review.
18.3	Report by the Auditor	The Auditor must issue an annual report to Austraclear in the prescribed form and within the prescribed time after the financial year end for Austraclear based on the Auditor's latest audit of the Procedures.
18.4	Participant Report by Austraclear	At the request and expense of a Participant, Austraclear will issue a report relating to Securities held in safekeeping by Austraclear in the prescribed form, either to that Participant or as that Participant may direct by notice to Austraclear.
18.5	Rights of access	A Participant, or auditor or other representative of a Participant, has no right of access to or right to sight or inspect: (a) any Deposited Securities except by Withdrawing the Security from the System or (b) Austraclear's computer and operational facilities.

The Austraclear Procedures, Determinations and Practice Notes in section 18 provide a description of the form of the report, the timeframe for issuance, the inherent limitations and examples of the internal control procedures that Participants should maintain within their own control environment.

9 / Control objectives and related control procedures

This section sets out the control objectives identified and developed by ASX for Austraclear and the associated control activities, which are in scope for PricewaterhouseCoopers's (PwC) independent assurance report. Any references made to the ASX network, application, operating system and database are specific to Austraclear.

Following the description of control activities is a summary of tests performed by PwC to determine that the control activities in place were designed and operating with sufficient effectiveness to provide reasonable, but not absolute, assurance that the control objectives specified were achieved during the period 1 July 2023 to 30 June 2024. Where exceptions have been identified, these have been noted under 'Results' in the table below.

Logical Access

Control Objective 1*: Controls provide reasonable assurance that logical access is restricted to prevent inappropriate or unauthorised access to the ASX network, application software, operating systems and underlying databases.*

Description of controls		Test performed by PwC	Results
1.1	The ASX Identity and Access Management Policy (the Policy) is documented and outlines the principles for restricting access to the network, application software, operating systems and underlying databases. The Policy is available to all staff.	**Inspection** Verified through inspection that the ASX Identity and Access Management Policy was documented and outlined the principles for restricting access to the network, application software, operating systems and underlying databases and was available to all staff.	No exception noted.
1.2	New and modifications to user access to the ASX network, application software, operating systems and underlying databases are approved prior to access being provisioned.	**Inspection** For a sample of new and modifications to user access, verified through inspection that access to the ASX network, application software, operating system and underlying database was approved prior to access being granted.	No exception noted.

Description of controls	Test performed by PwC	Results
1.3 Termination of user access to the ASX network, application software, operating systems and underlying databases is performed in a timely manner. Terminated employees' Active Directory access is automatically removed or deactivated on last day of service as recorded in the HR system.	**Inspection** For a sample of terminated users, verified through inspection that access to the ASX network, application software, operating system and underlying database was revoked in a timely manner in accordance with the ASX Identity and Access Management Policy. **Observation** Verified through onscreen observation that an automated deactivation process was in place to disable terminated staff network access on the last day of service as recorded in the HR system. **Inspection** For a sample of terminated users throughout the period, verified through inspection that their ASXProd account (ASX network access) was automatically deactivated on the last day of service as recorded in the HR system.	No exception noted.

Description of controls	Test performed by PwC	Results
1.4 Access to the ASX network, application software, operating systems and underlying databases is authenticated and restricted through the use of password controls in line with policy requirements or a valid exemption for the deviation exists.	**Inspection** Verified through inspection at the time of testing that password parameters at the ASX network, application software, operating system and underlying database layers were in line with the ASX Identity and Access Management Policy requirements. **Inspection** Where the password parameters were not in compliance with the ASX Identity and Access Management Policy requirements, validated through inspection that a current exemption for the deviation exists.	No exception noted.
1.5 Regular reviews of user access to the application software, operating systems, underlying databases and source code repositories are performed to confirm currency and appropriateness of access. Follow up actions are completed in a timely manner.	**Inspection** For a sample of application software, operating system, underlying database and source code repository user access reviews, verified through inspection that the reviews were performed to confirm currency and appropriateness of access. **Inspection** Verified through inspection that all follow up actions resulting from the sampled user access reviews were completed in a timely manner in accordance with ASX Identity and Access Management Policy.	Exception noted. The ASX Identity and Access Management policy requires that a user access review is performed on a six-monthly basis to ensure that user access remains current and commensurate with job responsibilities. Our procedures noted that for 4 out of 10 servers, the operating system (local server groups) reviews were incomplete because they did not include the list of users/groups with access to those servers. Management conducted a review of these servers in July 2024, outside of the engagement period, and confirmed that all users/groups had appropriate access.

Description of controls	Test performed by PwC	Results
1.6 Documented procedures and network security measures, i.e. firewalls, intrusion detection software, patching, anti-virus software and incident response process, are in place for safeguarding against the threat of malicious attacks.	**Inspection** Verified through inspection of the Security Patching Guidelines, Malicious Code Standard, Cyber Incident Response Plan and Incident Response Playbooks that principles for safeguarding against the threat of malicious attack were outlined. **Inspection and Observation** Verified through inspection of network documentation and onscreen observation that firewalls, intrusion detection software and anti-virus software were in place. **Inspection** For a sample of monthly patching meetings, verified through inspection that the available patches were evaluated and, where required, tracked for implementation in line with the Security Patching Policy. *For incident response process testing, please refer to control 5.7.	No exception noted.

Description of controls	Test performed by PwC	Results
1.7 Remote access to the ASX network, application software, operating system and underlying databases is restricted and further security measures include digital certificates and/or RSA tokens.	**Observation** For a sample user, verified through onscreen observation that User IDs and passwords, as well as digital certificates or RSA tokens, were required to access the ASX network remotely. **Inspection** Verified through inspection of the ASX Mobility and Remote Access Standard that requests for remote access using RSA token are required to be authorised. **Inquiry and Inspection** Based on our inquiry and inspection, there were no instances of new remote access granted with the use of RSA tokens during the period. **Inspection** For a sample of users no longer requiring remote access accounts, verified through inspection that remote access was removed in a timely manner.	No exception noted. There were no instances of new remote access being granted with the use of RSA tokens during the period 1 July 2023 to 30 June 2024. Therefore, the operating effectiveness of this control could not be tested, and our procedures were limited to inquiry only.

Change Management

Control Objective 2: *Controls provide reasonable assurance that all changes relating to the application software, operating system software and underlying databases within the Austraclear production environment are authorised, tested and managed appropriately*

Description of controls		Test performed by PwC	Results
2.1	Documented change management procedures are in place. The policy is available to all relevant staff.	**Inspection** Verified through inspection that the ASX ITSM Change Management Policy was documented and outlines the procedures to handle standard, normal and emergency changes and was available to all relevant staff.	No exception noted.
2.2	Changes (excluding emergency changes) to the application software, operating systems and underlying databases have testing performed with testing results recorded, tracked and signed off prior to implementation.	**Inspection** For a sample of changes to the application software, operating system and underlying databases, verified through inspection that testing results were recorded, tracked and signed off prior to implementation.	No exception noted.
2.3	Changes (excluding emergency changes) to the application software, operating systems and underlying databases are authorised by Technology and/or the Business prior to implementation.	**Inspection** For a sample of changes to the application software, operating system and underlying databases, verified through inspection that each change was authorised by Technology and/or the Business prior to implementation.	No exception noted.

Description of controls		Test performed by PwC	Results
2.4	Segregation of development, test and production environments is in place.	**Observation** Verified through onscreen observation that segregated development, test and production environments existed at the time of testing.	No exception noted.
2.5	Emergency changes are authorised prior to or as soon as practical after implementation with documentation and testing performed as soon as practical upon implementation.	**Inspection** For a sample of emergency changes, verified through inspection that each change was formally authorised, tested and documented according to the ASX ITSM Change Management Policy.	No exception noted.
2.6	Segregation of duties between developers and migrators of changes is enforced through periodic review of access at the source code repositories and operating systems. Follow up actions are completed in a timely manner.	Refer to control 1.5 above.	Refer to control 1.5 above.

Physical Security

Control Objective 3: *Controls provide reasonable assurance that physical security prevents unauthorised access to the ASX primary data centre and ASX-controlled areas in the secondary data centre.*

Description of controls		Test performed by PwC	Results
3.1	Documented physical security policies and procedures relating to the ASX primary data centre and ASX-controlled areas in the secondary data centre are in place. This includes site visitation procedures (i.e. sign-in process, and the requirement to be accompanied by an authorised individual) for each category of access. The policy is available to all relevant staff.	**Inspection** Verified through inspection that documented physical security policies and procedures relating to the ASX primary data centre and ASX controlled areas in the secondary data centre were in place and available to all relevant staff.	No exception noted.
3.2	Access to the ASX primary data centre and ASX-controlled areas in the secondary data centre is restricted and monitored through the use of electronic security devices and other arrangements (i.e. locked doors, security cameras, 24x7 operation). Identification badges are required for staff, visitors, contractors and customers.	**Observation** Verified through observation at the time of testing that the ASX primary data centre and ASX-controlled areas in the secondary data centres that access was restricted and monitored through the use of electronic security devices and other arrangements, including: - locked doors - security cameras, and 24x7 operation **Observation** Verified through observation at the time of testing that staff, visitors, contractors and customers were required to wear identification badges.	No exception noted.

Description of controls		Test performed by PwC	Results
3.3	Access requests to the ASX primary data centre and ASX-controlled areas in the secondary data centre are approved prior to access being granted.	**Inspection** For a sample of access requests to the ASX primary data centre and ASX-controlled areas in the secondary data centre, verified through inspection that access was approved prior to access being granted.	No exception noted.
3.4	Access is removed in a timely manner for employees who no longer require access to the ASX primary data centre and/or ASX-controlled areas in the secondary data centre.	**Inspection** For a sample of terminated employees, verified through inspection that access to the ASX primary data centre and/or ASX-controlled areas in the secondary data centres was removed in a timely manner.	No exception noted.
3.5	Regular access reviews are performed to confirm currency and appropriateness of access to the ASX primary data centre and ASX-controlled areas in the secondary data centre. Follow up actions are completed in a timely manner.	**Inspection** For a sample of data centre user access reviews, verified through inspection that regular access reviews were performed to confirm currency and appropriateness of access to the ASX primary data centre and ASX-controlled areas in the secondary data centre. **Inspection** Verified through inspection that no follow up actions (access removals) were identified during the user access reviews.	No exception noted. There were no follow up actions identified during the user access reviews, therefore, testing over follow up actions was not performed.

Disaster Recovery Procedures

Control Objective 4: *Controls provide reasonable assurance that in the event of a disaster, measures are in place to enable Austraclear to resume effective operations within two hours.*

Description of controls		Test performed by PwC	Results
4.1	A documented Disaster Recovery Plan for the system is in place and tested on a regular basis with an appropriate level of oversight.	**Inspection** Verified through inspection that a documented Disaster Recovery Plan for the system was in place, tested on a regular basis and test results are communicated and approved by relevant management.	No exception noted.
4.2	A documented Business Continuity Plan is in place and reviewed on a periodic basis. Scenario(s) are tested at least yearly, results are reviewed, approved and updates are made to the Business Continuity Plan as required.	**Inspection** Verified through inspection that the Business Continuity Plan (BCP) was in place and was reviewed periodically. Inspected that BCP scenario testing was performed at least annually, results reviewed, approved and updated as required.	No exception noted.

IT Processing

Control Objective 5: *Controls provide reasonable assurance that Austraclear is backed up, and system processing and performance is monitored.*

Description of controls		Test performed by PwC	Results
5.1	Documented backup policies and procedures are in place. The policy and procedure documents are available to all relevant staff.	**Inspection** Verified through inspection that back up policies and procedures were documented and were available to all relevant staff.	No exception noted.
5.2	Application data is backed up on a regular basis. Failures are identified and tracked to resolution.	**Observation** Verified through onscreen observation that the backup schedule for application data was setup in line with policy requirements. **Observation and Inspection** Verified through onscreen observation and inspection that an automated notification was generated upon failure of a backup job. **Inspection** For a sample of days, verified through inspection that backups were completed successfully. **Inspection** For a sample of incident tickets raised due to backup failures, verified through inspection that they were resolved in a timely manner in line with policy.	No exception noted.

Description of controls		Test performed by PwC	Results
5.3	Backed up data is stored in an offsite location and restricted to authorised personnel.	**Inspection** Verified through inspection of the agreement with the third-party service provider that backed up data was taken and stored in an offsite location. **Inspection** For a sample of days, verified through inspection that sign-off was provided by an authorised representative when backup tapes were taken off-site for storage. **Inquiry and Inspection** Verified through inquiry with management and inspection of the listing of individuals with access to ASX data stored at offsite locations that they were authorised personnel.	No exception noted.
5.4	Automated system monitoring tools are in place. Exception reporting is used to alert staff of operational failures.	**Observation** Verified through onscreen observation that automated system monitoring tools were in place. **Inspection** Verified through inspection that exception reporting functionality alerted staff of operational failures.	No exception noted.

Description of controls		Test performed by PwC	Results
5.5	Job schedules are in place for batch processing. Failures are identified and tracked to resolution.	**Inspection** Verified through inspection that job schedules were in place for batch processing. **Inspection** For a sample of days, verified through inspection that the job schedules results were documented and reviewed. In the event of any failures, these were identified and tracked to resolution.	No exception noted.
5.6	Changes to job schedules are tested and approved prior to implementation.	**Inquiry** Verified through inquiry with management that no changes were made to the scheduled jobs for Austraclear during the period 1 July 2023 to 30 June 2024. **Inspection** Verified through inspection of relevant job scheduler screenshots and confirmed that no changes were made to the scheduled jobs for Austraclear during the period 1 July 2023 to 30 June 2024.	There were no changes made to the scheduled jobs for Austraclear during the period 1 July 2023 to 30 June 2024. Therefore, the operating effectiveness of this control could not be tested, and our procedures were limited to inquiry only.
5.7	Documented incident management procedures are in place and available to relevant staff. Incidents are logged and tracked to resolution in accordance with procedures.	**Inspection** Verified through inspection that the ASX IT Incident Management Process was documented and outlined the incident management process and was available to all relevant staff.	No exception noted.

Description of controls	Test performed by PwC	Results
	Inspection For a sample of incident tickets, verified through inspection that the incidents were logged and tracked to resolution in accordance with ASX IT Incident Management Process document.	

Environmental Controls

Control Objective 6: *Controls provide reasonable assurance that environmentally-controlled data centres exist to facilitate continuity of data processing operations.*

Description of controls	Test performed by PwC	Results
6.1 The data centres contain the following environmental mechanisms - fire detection and suppression systems - air conditioning systems - uninterruptible power supplies, and - water detection systems.	**Observation** Verified through observation at the time of testing that the ASX primary data centre and ASX-controlled areas in the secondary data centre contained the following environmental mechanisms: - fire detection and suppression systems - air conditioning systems - uninterruptible power supplies, and - water detection systems. **Inspection** For the ASX-controlled areas in the secondary data centre, for a sample of months, verified through inspection that management received and reviewed a report which included information on these relevant environmental mechanisms.	No exception noted.

Description of controls	Test performed by PwC	Results
6.2 A schedule of maintenance is performed on a regular basis to assist in preventing operational failure of the above environmental mechanisms.	**Inspection** Verified through inspection of the data centre maintenance schedules that maintenance of the above environmental mechanisms was performed on a regular basis. **Inspection** For ASX primary data centre, verified though inspection of a sample of maintenance reports that the preventative maintenance occurred in accordance with the schedule. **Inspection** For the ASX-controlled areas in the secondary data centre, verified through inspection that management had performed a monitoring check to ensure maintenance for environmental mechanisms relevant to ASX had been completed in accordance with the pre-defined schedule.	No exceptions were noted in PwC's testing. For 2 of the 4 months tested for regular maintenance for the ASX primary data centre by the ASX Internal Audit team, it was noted that maintenance was not performed for sprinkler and electrical/generator pumps which are part of the fire detection and suppression systems.

Austraclear

Control Objective 7: *Controls provide reasonable assurance that the process of daily settlement is complete and accurate.*

Description of controls	Test performed by PwC	Results
7.1 Automated monitoring of the system is in place with any technical alerts actioned. Each time the job schedule is run results are reviewed. As a result of successful job schedule, Participant reports are available directly from the System and include: - Cash Report - Holding Report, and - Settlement Instructions Report.	**Observation** Verified through onscreen observation that automated system monitoring tools were in place. **Inspection** For a sample of incident tickets, verified through inspection that the incidents were logged and tracked to resolution in accordance with procedures. **Inspection** For a sample of days, verified through inspection that the job schedule results were documented and reviewed. In the event of any failures, these were identified and tracked to resolution. **Observation** Verified through onscreen observation that Participant reports were available directly from the System and include: - Cash Report - Holding Report, and - Settlement Instructions Report.	No exception noted.

Description of controls	Test performed by PwC	Results
7.2 End of day settlement session extensions are assessed, approved and communicated to participants.	**Inspection** Verified through inspection that documented procedures were in place for session extensions. **Inspection** For a sample of end of day session extensions, verified through inspection that the documented procedures were followed.	No exception noted.
7.3 Incidents logged with regards to a discrepancy in the settlement obligations are tracked to resolution.	**Inspection** Verified through inspection that a documented ASX IT Incident Management Process was in place for incident management. **Inquiry and Inspection** For a sample of incidents with regards to a discrepancy in the settlement obligations, verified through inspection that the incidents were tracked to resolution in accordance with ASX IT Incident Management Process document.	No exception noted.