

Attachment 3 to CP 179



ASIC

Australian Securities & Investments Commission

ADDENDUM TO REGULATORY GUIDE 172

Supplementary guidance on market licensee systems and controls

June 2012

About this document

This addendum supplements our guidance in Regulatory Guide 172 *Australian market licences: Australian operators* (RG 172) for holders of an Australian market licence under s795B(1) of the *Corporations Act 2001* (Corporations Act) that authorises a person to operate a financial market (market licensees).

It outlines our minimum expectations under the Corporations Act for these market licensees to maintain adequate systems and controls, and ensure that their technology releases are well managed.

Note: In this addendum, the term 'market licensees' refers to domestic market licensees only—that is, holders of an Australian market licence under s795B(1).

About ASIC regulatory documents

In administering legislation ASIC issues the following types of regulatory documents.

Consultation papers: seek feedback from stakeholders on matters ASIC is considering, such as proposed relief or proposed regulatory guidance.

Regulatory guides: give guidance to regulated entities by:

- explaining when and how ASIC will exercise specific powers under legislation (primarily the Corporations Act)
- explaining how ASIC interprets the law
- describing the principles underlying ASIC's approach
- giving practical guidance (e.g. describing the steps of a process such as applying for a licence or giving practical examples of how regulated entities may decide to meet their obligations).

Information sheets: provide concise guidance on a specific process or compliance issue or an overview of detailed guidance.

Reports: describe ASIC compliance or relief activity or the results of a research project.

Document history

This draft addendum was issued in June 2012 and is based on legislation and regulations as at the date of issue.

Disclaimer

This document does not constitute legal advice. We encourage you to seek your own professional advice to find out how the Corporations Act and other applicable laws apply to you, as it is your responsibility to determine your obligations.

Examples in this document are purely for illustration; they are not exhaustive and are not intended to impose or imply particular rules or requirements.

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Supplementary guidance on market licensee systems and controls

Key points

This addendum supplements our guidance in RG 172, and outlines our minimum expectations under the Corporations Act for domestic market licensees to:

- maintain adequate systems and controls to ensure that the market they operate is fair, orderly and transparent;
- maintain sufficient resources in relation to their systems and controls that are appropriate for the nature, size and complexity of the market;
- have in place appropriate testing arrangements, adequate business continuity plans, sufficient capacity and adequate security in relation to their systems. Procedures should be in place to monitor and review these arrangements periodically; and
- notify ASIC of major system changes in sufficient time before the changes occur, and have appropriate processes to communicate information technology system management plans to stakeholders.

RG 172.180 Under s792A of the *Corporations Act 2001* (Corporations Act), holders of an Australian market licence under s795B(1) (market licensees) must, to the extent it is reasonably practicable to do so, do all things necessary to ensure that the market they operate is a fair, orderly and transparent market.

Note: In this addendum, the term ‘market licensees’ refers to domestic market licensees only—that is, holders of an Australian market licence under s795B(1).

RG 172.181 Market licensees should have sufficient resources, including appropriate technological resources. Regulatory Guide 172 *Australian market licences: Australian operators* (RG 172) provides general guidance for market licensees—at RG 172.12 and RG 172.105–RG 172.106—on the requirements and verification of technological resources.

RG 172.182 As markets have become more automated and high-speed in nature, we believe that it is appropriate to supplement our guidance in RG 172 on market licensee systems and controls. This addendum outlines our minimum expectations under the Corporations Act for domestic market licensees to maintain adequate systems and controls and ensure that their technology releases are well managed.

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How this guidance applies

- RG 172.183 This guidance applies to all domestic market licensees—that is, holders of an Australian market licence under s795B(1) of the Corporations Act. In an increasingly technology-driven and competitive market environment, it is important that our expectations are clear and consistently applied to these market licensees, even though the markets may differ in their nature, size and complexity. The high-level principles in this addendum constitute a broad framework for systems and controls relevant to all these market licensees. We expect market licensees' systems and controls to be proportionate to the scale and scope of their business.
- RG 172.184 In general, we expect these market licensees' systems to be robust enough to perform reliably through stressed market conditions and ensure continuity of the trading that takes place through the market, including having sufficient capacity to cater for spikes in the volume of messaging traffic. We also expect that all market participants seeking access to the market licensee's systems or services (including co-location services) should have access on fair, non-discriminatory terms.
- RG 172.185 The guidance provided in this addendum about our expectations for systems and controls is relevant to each market to different degrees. How the guidance applies will depend on the size of the market, the complexity of trading and the number and type of market participants and connections in the market. Examples used in this addendum are not intended to be exhaustive.
- RG 172.186 We will assess a market licensee's compliance with the principles in this addendum as part of our periodic assessment of the licensee and in our assessment of any changes the licensee may propose to make to its systems. We will also take into account the licensee's self-assessment of the extent to which it has complied with these principles.

Appropriate testing arrangements for trading systems

- RG 172.187 Market licensees should have appropriate testing arrangements to ensure that their systems are functional and reliable, and do not pose a threat to fair and orderly trading. Testing is a crucial part of ensuring that trading and other key systems function as intended.
- RG 172.188 The testing methodologies should be designed to ensure that:
- (a) the operation of the system complies with relevant regulatory obligations;
 - (b) controls embedded in the systems work as intended; and
 - (c) electronic trading systems can continue to work effectively in stressed market conditions.
- RG 172.189 When introducing or modifying an electronic trading system, relevant testing should be performed before going live, including but not limited to the types of testing listed below. The results of trading systems testing should be documented and made available to ASIC on request.

Connectivity testing

- RG 172.190 A market licensee should perform connectivity testing to validate the continuity of network communications by verifying that the network is properly connected, with message traffic taking the desired route. For example, if a market licensee plans to introduce a new electronic trading system, it could use a 'simulated trading environment' to make sure that the system and market participants are properly connected to enable interactions to take place.
- RG 172.191 Connectivity testing could also involve testing data feeds to the market licensee, such as from market data providers, relevant clearing and settlement facilities, as well as the connectivity between market licensees.
- RG 172.192 Market licensees subject to regulation under the ASIC Market Integrity Rules (Competition in Exchange Markets) 2011 should test their connectivity with each other to ensure they comply with their cooperation requirements for the coordination of trading suspensions and information sharing under Section I of draft updated Regulatory Guide 223 *Guidance on ASIC market integrity rules for competition in exchange markets* (draft updated RG 223).

Conformance testing

- RG 172.193 A market licensee should perform conformance testing designed to determine whether a system meets predefined standards—for example, whether the system complies with FIX protocols and specifications, and that quality assurance standards are being met. It should include interoperability testing and confirmation of associated internal procedures.
- RG 172.194 Conformance testing should also include testing for compliance with the market licensee's operating rules and procedures, obligations under the Corporations Act or ASIC market integrity rules (to the extent that they apply to systems and controls).

Regression testing

- RG 172.195 A market licensee should perform regression testing to detect potential problems in existing functional and non-functional areas of a system after changes and/or enhancements have been made. For example, when undertaking system enhancements, the market licensee should review relevant legacy code and infrastructure to evaluate the compatibility of the system changes with existing software and hardware.

Functional testing

- RG 172.196 A market licensee should perform functional testing to ensure that a system works as intended by verifying its features against its functional requirements. For example, the market licensee should test the functionality

of orders in the trading system (i.e. entry, amendment, cancellation and execution of an order). Testing can also involve the functionality of the interrelation of one order to another, such as iceberg orders or pegged orders.

Testing environment for stakeholders

- RG 172.197 For changes affecting market participants, market data providers or the ASIC Australian market regulation feed, a market licensee should provide a testing environment where affected stakeholders can test their systems against the market licensee's modifications.
- RG 172.198 In addition to the testing for trading systems, the market licensee should have testing environments with sufficient capacity to enable market participants to adequately stress test algorithmic programs and order flow (e.g. in a low-latency, high-message volume, volatile environment). This is especially relevant for large, fully automated markets with high levels of message traffic.

Adequate business continuity planning

- RG 172.199 Market licensees should have adequate business continuity, backup and disaster recovery plans for each of their systems that support order entry, order routing, execution, market data, trade reporting and trade comparison.
- RG 172.200 We expect market licensees to have arrangements in place to ensure that critical business functions will be available to stakeholders that require access, and the impact of a disruption or outage of services on stakeholders is minimised.
- RG 172.201 Market licensees should:
- (a) consider an adequate range of possible scenarios related to their systems and controls;
 - (b) have the supporting policies, guidelines and procedures needed to address disruptive incidents (including but not limited to system failures), and ensure a timely resumption of services; and
 - (c) back up business and compliance critical data that flows through their electronic trading systems.
- RG 172.202 Depending on the nature, size and complexity of their business, market licensees should consider having procedures in place for moving to, and operating the electronic trading system from, a backup site.
- RG 172.203 We expect market licensees to have adequate arrangements to ensure timely access to appropriately skilled and knowledgeable internal and vendor technical support for their specific system configurations, particularly while implementing system changes.

- RG 172.204 International standard-setting organisations offer additional information and guidance that market licensees may consider when developing their business continuity arrangements. Examples include the following:
- (a) The emerging International Standards Organization (ISO) standard, ISO 22301 *Societal security: Preparedness and continuity management systems—Requirements*, specifies requirements for setting up and managing an effective business continuity management system.
 - (b) In Australia, Standards Australia has published HB 292-2006 *A practitioner's guide to business continuity management*.
 - (c) Specifically in relation to the financial industry, in August 2006, a joint forum of the International Organization of Securities Commissions (IOSCO), the Basel Committee on Banking Supervision (BCBS) of the Bank for International Settlement (BIS), and the International Association of Insurance Supervisors (IAIS) issued a paper, *High-level principles for business continuity*, which set out principles-based guidelines on effective business continuity management.

Capacity management and stress testing

- RG 172.205 Market licensees should have sufficient system capacity to accommodate reasonably foreseeable volumes of trading activity. We expect market licensees to have arrangements in place to prevent capacity limits on messaging from being breached.
- RG 172.206 Market licensees should keep capacity requirements under review and conduct capacity stress tests regularly. These systems should be adaptable to manage trading behaviours (such as quote-stuffing) and scalable to allow for changes in response to elevated message levels and/or stressed market conditions that might breach their capacity.

Adequate systems security

- RG 172.207 Market licensees should have adequate physical and electronic security arrangements to protect their systems, and the premises where systems are housed. The security arrangements should be designed to prevent misuse or unauthorised access to systems, and to ensure the integrity of the data and information in the systems.
- RG 172.208 There should be procedures in place to restrict access to servers and systems to internal or external personnel with appropriate security clearance. For example, systems should be protected by operating system and application security to limit internal access to authorised personnel, and by firewalls to prevent unauthorised external access. A proactive strategy should be in place to prevent cyber attacks. Server rooms, co-location facilities and data centres should be secure from unauthorised physical access.

Periodic monitoring and review

- RG 172.209 We expect market licensees to monitor and review the above arrangements. To ensure that systems and controls remain continually effective, market licensees should periodically monitor and review their arrangements for systems testing, business continuity, capacity management and security. They should remedy deficiencies and deal with identified problems in an appropriate and systematic way, as soon as reasonably possible.
- RG 172.210 The monitoring and review arrangements should be proportionate to the nature, size and complexity of the market. A market licensee may conduct these periodic reviews as part of a self-assessment, or may consider engaging an independent third party (such as an independent expert in exchange markets or an information system auditor) to perform the necessary reviews.
- RG 172.211 The frequency of reviews will also vary according to the nature, size and complexity of the market (e.g. annual, semi-annual, quarterly, or monthly). Review results may be communicated to ASIC as part of the market licensee's annual report under s792F of the Corporations Act.

Stakeholder communications

- RG 172.212 Market licensees should have appropriate processes in place to release information technology system management plans to stakeholders (i.e. issuers, investors, market participants, vendors, other market licensees and ASIC). The plans should clearly identify mandatory versus optional changes and allow sufficient time for stakeholders to adapt to the changes.
- RG 172.213 The plans should be maintained for at least a 12-month period and should be routinely updated so that industry has a rolling schedule of upcoming changes. Market licensees should take into account the commercial, technological, supervisory and regulatory impact of changes to their systems and controls on stakeholders, and assess stakeholder readiness to deal with the impact of the changes.
- RG 172.214 We consider it critical that market licensees promote the orderly implementation of market changes where there are systems implications for market users, including timely distribution of sufficiently detailed notifications, and that best endeavours are used to ensure project schedules are adhered to once established. Every effort should be made to ensure that market licensees, vendors and market participants maintain appropriate quality standards.

Note: In this addendum, 'market users' means investors who acquire or dispose of financial products in a financial market. Investors may be market participants dealing for themselves or, where participants act as intermediaries, the clients of the participants.

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RG 172.215 For example, for material system changes, market licensees should obtain stakeholder readiness attestations on the changes before their final implementation. Where attestations cannot be obtained or it is impractical, appropriate alternative arrangements should be in place between the licensee and stakeholders.

Note: For examples of what is likely to be considered a material system change, see RG 172.220.

RG 172.216 In this context, on the basis that sufficient notice has been given of a material system change, market should also use best endeavours to ensure that they are ready to comply with all reasonable change initiatives.

Notification to ASIC of material system changes

RG 172.217 Market licensees should notify ASIC of material system changes in sufficient time before they occur so that we can consider the market integrity issues associated with these changes, both for our own surveillance function and for the wider market. The notification should outline the approach to managing the change, key project milestones and their preferred dates, including risk management, communication to the market, and the anticipated impact on market participants and the wider market.

RG 172.218 When assessing these changes, we expect market licensees to take into account the impact of their initiatives on market integrity. We may discuss with a market licensee the implications of its system changes for stakeholders. We may request that an independent third party verify the changes to ensure that these are managed appropriately and in an orderly manner. The third party may be an independent expert in exchange markets, an information system auditor or another person that we consider is suitably qualified and experienced.

RG 172.219 When classifying material system changes, a market licensee should consider the likely impact on market participants, and the fair, orderly and transparent operation of the wider market. A material change is likely to involve a high degree of effort or complexity in implementation and/or have significant stakeholder impact.

RG 172.220 Examples of what is likely to be considered a material change, subject to discussion with ASIC, include:

- (a) a change of trading system by a market licensee;
- (b) the introduction of new infrastructure allowing the physical proximity of processing servers to minimise latency;
- (c) a change to order matching and execution algorithms; and
- (d) the change or removal of a financial threshold for an order type.