

BUSINESS CONTINUITY AND DISASTER RECOVERY

<p>The purpose of this Guidance Note</p>	<ul style="list-style-type: none"> • To assist participants to understand the disaster recovery and business continuity arrangements they should have in place to meet their obligations under the ASX Clear Operating Rules
<p>The main points it covers</p>	<ul style="list-style-type: none"> • The key requirements that a participant's disaster recovery and business continuity arrangements should meet in order to be considered "adequate" for the purposes of the ASX Clear Operating Rules • How those requirements differ for "tier 1" and "tier 2" participants • ASX's requirement for the participant to notify ASX of any disruption that causes the participant to engage its BCP and also of any significant outage
<p>Related materials you should read</p>	<ul style="list-style-type: none"> • <i>Guidance Note 1 Admission as a Participant</i> • <i>Guidance Note 3 Changes in Participation</i> • <i>Guidance Note 8 Notification Obligations</i> • <i>Guidance Note 9 Offshoring and Outsourcing</i>

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Important notice: ASX has published this Guidance Note to assist participants to understand and comply with their obligations under the ASX Clear Operating Rules. It sets out ASX's interpretation of the ASX Clear Operating Rules and how ASX is likely to enforce those rules. Nothing in this Guidance Note necessarily binds ASX in the application of the ASX Clear Operating Rules in a particular case. In issuing this Guidance Note, ASX is not providing legal advice and participants should obtain their own advice from a qualified professional person in respect of their obligations. ASX may withdraw or replace this Guidance Note at any time without further notice to any person.

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1. Introduction

This Guidance Note is published by ASX Clear Pty Limited (“ASX”) to assist participants in ASX Clear to understand the disaster recovery and business continuity arrangements they should have in place to meet their obligations under the ASX Clear Operating Rules.

Under those rules, a participant is required at all times to maintain adequate disaster recovery and business continuity arrangements, having regard to the nature and extent of its operations, to ensure the timely recovery of its usual operations.¹

It is noted that a participant who is no longer able to transmit clearing messages is entitled under the ASX Clear Operating Rules to request ASX to provide emergency assistance and, in particular, to request ASX to act as its agent to send and receive clearing messages on its behalf.² ASX, however, is only obliged to provide such assistance on a “reasonable endeavours” basis. The fact that ASX may provide this emergency assistance facility does not derogate from or mitigate the obligation of a participant to have adequate disaster recovery and business continuity arrangements for the timely recovery of its usual operations and participants should not consider this facility to be a part of those arrangements.

2. Participant tiering

ASX acknowledges that a “one size fits all” approach to business continuity and disaster recovery arrangements is neither practicable nor appropriate.

ASX therefore classifies its participants as “tier 1” and “tier 2” participants for the purposes of assessing the adequacy of their business continuity and disaster recovery arrangements. Higher standards apply to tier 1 participants than to tier 2 participants.

A **tier 1 participant** is a participant that:

- clears or expects to clear more than \$10,000,000,000 of transactions per annum through the ASX Clear facility;
- acts as the clearer for 4 or more trading participants (including itself, if it is a trading participant, and any related bodies corporate that are also trading participants); or

¹ ASX Clear Operating Rules 4.1.1(g) and 4.2.1.

² ASX Clear Operating Rule 6.9.1 and ASX Clear Operating Rules Procedure 6.9.

- is advised by ASX that it is a tier 1 participant for the purposes of this Guidance Note.³

A **tier 2 participant** is any participant that is not a tier 1 participant.

Participants should review and assess their tier classification from time to time, particularly following any change in the nature or scale of their ASX Clear operations, to determine whether they need to upgrade their business continuity and disaster recovery arrangements in light of that change.

3. Terms used in this Guidance Note

The following terms used in this Guidance Note have the meanings assigned below:

allocation matrix – a document setting out which core personnel are to relocate to an alternate site or to work from home in the event of a disruption affecting the primary site.

alternate site – the site or sites at which a participant's ASX Clear operations will be carried out in the event of a disruption affecting the primary site. An alternate site may be occupied and operated by the participant or it may be a facility provided by a third party service provider. It may also be a shared facility.

ASX Clear operations – the technology, staff, premises, equipment, business processes and other resources used by a participant in conducting its business and performing its obligations under the ASX Clear Operating Rules and, if the participant is also a participant of ASX Settlement, under the ASX Settlement Operating Rules. This includes, but is not limited to, payment arrangements with the participant's bank, client records, and systems for reconciling client account information with the participant's accounting records.

business continuity arrangements – arrangements put in place to enable a participant to continue its ASX Clear operations in the midst of, or following, an actual or potential disruption.

business continuity plan or **BCP** – a documented collection of plans and procedures setting out a participant's business continuity arrangements.

business impact analysis – an analysis of the effect that different types of disruption might have upon a participant's ASX Clear operations.

change management – processes for managing change to technology or other infrastructure to minimise unanticipated disruptions.

communications network – the telecommunication links between the participant and ASX, between the participant's different sites (including its primary and alternate sites), and between the participant and any party to whom it outsources any of its ASX Clear operations.

core personnel – the minimum set of staff with appropriate skills and experience required for a participant to recover and resume its ASX Clear operations in the event of a disruption.

cyber attack – an attempted or actual incident that either:

- uses computer technology or networks to commit or facilitate the commission of traditional crimes, such as fraud and forgery (for example, identity or data theft); or
- is directed at computers and computer systems or other information communication technologies (for example, hacking or denial of services).⁴

³ In assessing whether a participant should be classified as a "tier 1 participant", ASX may have regard to the Reserve Bank of Australia's requirements and recommendations in the Financial Stability Standards for Financial Market Infrastructures. It may also have regard to amount and type of clearing and settlement business conducted by related bodies corporate of the participant with ASX.

⁴ As defined in ASIC Report 429: *Cyber resilience: Health check*, March 2015, available online at: <http://download.asic.gov.au/media/3042176/rep429-published-19-march-2015.pdf>.

disaster recovery arrangements – a subset of a participant’s business continuity arrangements relating to the recovery and resumption of technology systems following a natural or man-made disaster affecting those systems.

disruption – an interruption to normal ASX Clear operations.

downtime – the period that a disruption lasts.

geographically remote – where the primary site and alternate site are in different locations with suitably different risk profiles. Generally speaking, the alternate site should be at least 5 kilometres away from the primary site and on a separate power grid. However, it is important for participants to consider any local factors that may impact the required distance. For example, if a participant’s primary site is located in a local flood zone that extends for more than 5 kilometres, the participant should locate its alternate site outside the flood zone.

incident management plan – a documented plan of action for use at the time of a disruption that typically covers the core personnel, resources, services and actions needed (including decision-making and communication processes) to deal with the disruption.

outsourced – where a participant has part of its ASX Clear operations performed by someone else (including a related body corporate).

primary site – the site or sites at which business-as-usual processing for ASX Clear operations occurs.

recovery time objective – the target time within which ASX Clear operations are to be resumed following a disruption.

related body corporate – the same meaning as section 50 of the Corporations Act 2001 (Cth).

remote access – the ability for a staff member at a participant to log on to the systems used for the participant’s ASX Clear operations and perform all necessary functions from a site other than the participant’s primary or alternate sites (eg at the staff member’s home).

shared facility – a facility shared by staff employed in a participant’s ASX Clear operations and staff employed in another business unit of the participant or of a related body corporate, or staff employed by a third party.

significant outage – a disruption where a participant is unable or unlikely to meet the recovery time objective stated in its business continuity plan.

4. Key requirements

4.1. Business continuity plan

All participants should conduct a business impact analysis covering a full range of potential disruption scenarios to their ASX Clear operations and establish a business continuity plan (BCP) which seeks to ensure that their ASX Clear operations can be recovered and resumed following a disruption within the recovery time objective stated in their BCP.⁵

A participant’s BCP should be signed off at senior management level and reviewed and tested at least annually to ensure that it remains current and adequate. It should be available in hard copy as well as electronically, and accessible at its primary and alternate sites.

A participant’s BCP, at a minimum, should address the following disruption scenarios:

- an internal system outage;
- if a participant has outsourced any of its ASX Clear operations to a third party, a system outage at the third party;

⁵ The recovery time objective stated in the participant’s BCP should conform to key requirement 4.2.

- an attempted or actual cyber attack on data or technology required to conduct its ASX Clear operations, including those elements offshored or outsourced;⁶
- a primary site outage with same-day recovery (eg because of a need to evacuate a building following a bomb threat or fire alarm);
- a sustained primary site outage (eg because of serious damage to a building);
- the network of its primary telecommunication provider not being available for an extended period;
- a loss of the primary electricity supply to a primary site for an extended period;
- a major disruption to public transport or related infrastructure (such as the closure of a major road or bridge) affecting a primary site; and
- a pandemic affecting the participant's staff or the staff of a party to whom it has outsourced some of its ASX Clear operations.

4.2. Recovery time objective

A tier 1 participant's BCP should specify a recovery time objective of not more than 4 hours following the initiation of its BCP, and preferably only 2 hours.

A tier 2 participant's BCP should specify a recovery time objective of not more than 6 hours following the initiation of its BCP, and preferably only 4 hours.

Within that period, the participant should have been able to resume its business-as-usual ASX Clear operations and also completed the processing of all transactions affected by the disruption.

Participants should aim to make a decision on whether or not to initiate their BCP as quickly as they reasonably can following a disruption so that it does not significantly extend the time during which their ASX Clear operations are down.

4.3. System resilience

All participants should comply with the following requirements:

- Technology should be configured and plans and processes should be in place so that, in the event of a disruption at a primary site, ASX Clear operations can be recovered and resumed at an alternate site with minimal downtime and within the recovery time objective stated in the participant's BCP.⁷
- A participant should have sufficient technology in place at its primary and alternate sites so that ASX Clear operations can occur at each location, independently of the other.
- The alternate site should be able to handle business-as-usual transaction volumes for a typical business day as well as any additional volumes associated with accumulation and queuing of transactions during a disruption.
- Technology housed at the primary and alternate sites should be secure and adequately protected from fire, flood and water damage, and access should be controlled with appropriate security devices.
- The primary and alternate sites should each have an uninterruptible power supply and generator back-up to ensure a reasonable period of continuous supply of electricity in the event of an interruption to the primary electricity supply.

⁶ Further guidance on offshoring and outsourcing arrangements can be found in ASX Clear Operating Rules Guidance Note 9 *Offshoring and Outsourcing*.

⁷ Again, the recovery time objective stated in the participant's BCP should conform to key requirement 4.2.

- The primary and alternate sites should use separate hardware and separate communication lines in order to avoid a single point of failure.
- The primary and alternate sites should be on common software versions and appropriate system and software documentation should be available at both sites.
- The participant should have access to a suitable test environment for all critical technology to seek to reproduce disruptions to technology and to find resolutions to them.
- If an alternate site is a shared facility, the participant should ensure there are appropriate arrangements in place to preserve the confidentiality of any confidential client information.

The following additional requirements apply to tier 1 participants:

- An alternate site should be geographically remote from any primary site.
- A tier 1 participant's communications network should have dual line redundancy using diverse paths and preferably alternate telecommunication providers, where practicable, to eliminate single points of failure.

4.4. Data recovery

All participants should configure their technology and have plans and processes in place so that in the event of a technology disruption at the primary site there is minimal loss of data relevant to their ASX Clear operations. This includes:

- maintaining a back-up of end-of-day production data away from the primary site;
- taking and storing for an appropriate period a start-of-day snapshot of production data;
- having the ability to identify the status of all clearing messages (and, if the participant is also a participant of ASX Settlement, any settlement messages) at the time of the disruption; and
- having the ability to identify any outstanding clearing transactions (and, if the participant is also a participant of ASX Settlement, any outstanding settlement transactions) at the time of recovery of their ASX Clear operations.

A tier 1 participant should take and store for an appropriate period multiple intraday snapshots of production data.

4.5. Core personnel

All participants should identify the core personnel needed to recover and resume their ASX Clear operations following a disruption and provide them with the facilities they need to do so within the recovery time objective stated in their BCP.⁸ This may involve them having an allocated work space at an alternate site which is configured and ready for their use and/or remote access.

A participant should keep an up-to-date allocation matrix indicating which core personnel are to relocate to an alternate site or to work from home in the event of a disruption affecting the primary site.

4.6. Incident management plan

All participants should develop, maintain and practise a clearly defined and documented incident management plan which can be applied to each disruption scenario developed in accordance with key requirement 4.1. The incident management plan should clearly state roles, responsibilities and escalation arrangements for each disruption scenario. Management delegations and lines of succession should also be specified.

⁸ Again, the recovery time objective stated in the participant's BCP should conform to key requirement 4.2.

The incident management plan should include a communications plan which can be applied to each disruption scenario detailing what should be communicated, when it should be communicated and to whom, including staff, clients, ASX, ASIC and other regulators. It should also include an up-to-date contact list for key parties.

The incident management plan should be reviewed and tested at least annually to ensure that it remains current and adequate. It should be available in hard copy as well as electronically, and accessible at a participant's primary and alternate sites.

4.7. BCP testing

Unless notified otherwise in writing by ASX, a participant must test its disaster recovery and business continuity arrangements:

- at least once annually;
- as soon as practicable following any material change to its business or its disaster recovery and business continuity arrangements;⁹ and
- as otherwise notified by ASX.¹⁰

At a minimum, the test should confirm:

- successful fail over of technology from the primary site to the alternate site;
- successful fail over of the communications network to the alternate site, ensuring connectivity is maintained to other participant sites, ASX, payment providers and any party to whom it outsources any of its ASX Clear operations;
- successful validation of connectivity, data and applications at the alternate site;
- the ability of users to access and log in to technology and applications at the alternate site, including the use of remote access where applicable;
- the ability of users to complete business-as-usual processes at the alternate site;
- the recovery solution provides sufficient capacity to handle business-as-usual transaction volumes for a typical business day as well as any additional volumes associated with accumulation and queuing of transactions during a disruption; and
- successful restoration of the production environment.

Participants should record and analyse the outcomes of all testing conducted in accordance with this key requirement.

Participants that conduct a full fail-over to an alternate site following a disruption to their ASX Clear operations can treat that as a test of their business continuity arrangements, provided the fail-over is successful and confirms the matters mentioned above.

4.8. Outsourced operations

A participant that has outsourced any of its ASX Clear operations to someone else should have a service level agreement with that person to ensure that their business continuity arrangements are appropriate and complementary to the participant's business continuity arrangements, and that they are sufficient to enable the participant to meet the recovery time objective stated in the participant's BCP.¹¹

⁹ ASX Clear Operating Rules Procedure 4.2.1.

¹⁰ ASX Clear Operating Rule 4.2.1.

¹¹ Again, the recovery time objective stated in the participant's BCP should conform to key requirement 4.2.

4.9. Change management

All participants should have and comply with change management policies and procedures that are designed and function to ensure that changes to its ASX Clear operations are thoroughly assessed, tested and authorised, and that appropriate disaster recovery and roll-back arrangements are in place, before changes are implemented.

4.10. Notification requirements

All participants should notify ASX of:

- any disruption that causes the participant to engage its BCP for its ASX Clear operations, as soon as reasonably practicable after it becomes aware of the disruption;¹² and
- any significant outage impacting its ASX Clear operations, as soon as it becomes apparent that it is or is likely to be a significant outage.

¹² ASX Clear Operating Rules Procedure 4.7.1.