



**ASX**  
AUSTRALIAN SECURITIES EXCHANGE

# ASX OTC IRD Client Clearing

Proposed Service Description



October 2013

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This paper has been compiled to inform current and prospective users of the ASX OTC Interest Rate Derivatives Client Clearing Service. Please note recipients of this document are asked not to forward this paper outside of their organisations and not to publish the material in any way without ASX's prior permission.

# 1 Introduction

## 1.1 Purpose of Document

The purpose of this document is to present a high level description of the key features and functionality of the ASX OTC Interest Rate Derivatives (“IRD”) Client Clearing service for both current and prospective Clearing Participants (“CPs”) and Clients of CPs.

The Client Clearing service described in this document is a proposal only and is subject to public consultation. The final design of the ASX OTC IRD Client Clearing Service will require regulatory clearance before implementation. Accordingly, the contents of this document may be subject to significant change and should not be relied upon. This document has been provided for guidance only. This document does not, and does not purport to, contain a detailed description of its subject matter. This document does not constitute legal or financial advice.

## 1.2 Background

In response to the global financial crisis, the G20 met in Pittsburgh in September 2009. One of the key outcomes of this summit was the consensus that standardised OTC derivatives trades should be cleared and that wider provision of clearing should be made to end users, particularly with respect to OTC. Since then a number of CCPs have built/progressed OTC client clearing models to enable the buy-side to access clearing indirectly i.e. via a clearing broker.

ASX launched its OTC IRD Dealer to Dealer (“D2D”) Clearing service in July 2013, and is developing a Client Clearing offering which is currently scheduled for launch at the end of Q1 2014.

If you have any questions on the content of this service description, please contact ASX OTC IRD Client Clearing Business Development: Nick Hill ([Nick.Hill@asx.com.au](mailto:Nick.Hill@asx.com.au)) or Christopher Day ([Christopher.Day@asx.com.au](mailto:Christopher.Day@asx.com.au)).

## 1.3 Clearing Service Objectives

ASX is introducing its Client Clearing service in response to:

- market demand for client account segregation options, in respect of both ASX 24 Exchange Traded Derivatives (ETD) and OTC IRD, that offer Clients the choice of enhanced protection in the event of CP default;
- market demand for a domestic OTC client clearing service; and
- changes to regulatory standards in Australia.

ASX's OTC IRD Client Clearing Service will focus on achieving strong outcomes in terms of regulatory compliance and solution efficiency. The service aims to provide a high degree of confidence that Clients will be able to maintain their cleared positions in the event that their CP defaults. ASX is using existing or developing international market and regulatory standards as the foundation for the service. ASX believes that it is not only important to comply with international standards but also to tailor its service to meet Australian market requirements.

In line with the D2D IRD Clearing offering, ASX's Client Clearing Service will prioritise the clearing of the most liquid products for the Australian market and will offer time zone benefits for Australian and New Zealand market participants. The service will be scalable at a later stage to extend to other products/currencies and offshore time zone activity.

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ASX will offer a Client Clearing service that is operationally secure and efficient, with a strong risk management approach. In addition, ASX will achieve a cost effective Client Clearing solution by offering cross-margin opportunities against ASX 24 ETDs in order to minimize funding requirements for participants and their clients. ASX's services are focussed on the local market and will access Australian time zone liquidity, thus resulting in efficient outcomes for its margin calculations. As part of ASX's services, ASX customers will also be able to use ASX Collateral<sup>1</sup> which features a state of the art collateral optimisation engine to allow efficient allocation of A\$ non-cash collateral to cover OTC and ETD margin obligations to ASX.

## 1.4 Client Clearing Service – Executive Summary

ASX's Client Clearing Service will offer a Client account structure that will enable CPs to offer their Clients two account types: (1) net omnibus client segregation ("Omnibus Client Account"); and (2) individual segregation ("Individual Client Account"), which allows for separate identification and protection of individual Clients' positions and associated Initial Margin ("IM"). The individual segregation option will give Clients the choice of enhancing the portability of their positions and associated IM in the event of the CP's default. All collateral covering IM will be lodged by the CP in respect of all its client accounts, and comingled in a single client collateral account at ASX.

ASX plans to introduce the OTC IRD Client Clearing Service at the end of Q1 2014. This service will initially be available only to Australian Clients. Client Clearing for ASX 24 ETD and hence cross margining of client accounts, will be available from the end of Q2 2014.

ASX is consulting CPs, Clients, regulators and other stakeholders on the design of the Client Clearing service. In addition to complying with applicable regulations, the design of the Client Clearing service seeks to balance the following considerations:

- the service will offer options for client account segregation that respond to – and will be supported commercially by – Client demand for protection (recognising that the higher the level of segregation, the greater the commercial and operational impact on CPs and the higher the likely cost of the account option for Clients);
- the service will minimise, to the extent possible, the commercial impact of increased client account segregation on CPs, and accordingly it should be each CP's choice (rather than ASX's) whether to offer its Clients net omnibus segregation, individual segregation, or both; and
- the service will minimise, to the extent possible, the operational impact of this change on CPs, and to this end the model of client account segregation adopted by ASX should be where possible consistent with segregation models mandated in major overseas jurisdictions.

Future enhancements to ASX's Client Clearing service will enable excess client collateral to be segregated by ASX at the individual client account level, and may enable Clients' specific collateral assets, rather than the value of collateral equivalent to the Initial Margin requirement to be segregated by ASX. ASX will consult stakeholders on these intended enhancements in 2014.

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<sup>1</sup> For further information, please see <http://www.asx.com.au/services/asx-collateral.htm>

## 1.5 Summary of Service features

The following table summarises the key attributes of ASX's OTC IRD Client Clearing service.

Attribute	ASX Client Clearing Service
Account Structure	<p>There will be a choice of either Individual Client account or Omnibus account for Client positions. All collateral covering IM will be lodged by the CP in respect of all its Client accounts, and comingled in a single Client collateral account per CP at ASX, segregated from the CP's House account. Additionally, IM relating to Individual Client accounts will be protected in a similar way to the LSOC (Legally Segregated Operationally Comingled) model in the USA, which offers Clients protection from fellow customer risk in that the value provided by one customer cannot be used to meet an obligation of another customer.</p> <p>For Client level position reporting, there will be separate Client position accounts for ASX 24 ETD and OTC IRD. Account structures will facilitate cross-margining between ASX 24 ETD and OTC IRD (please see below). The proposed Account Structure is illustrated in Figure 1 below.</p> <p>There is no restriction as to how many individual accounts a client can have, but a client can only be part of one Omnibus account for OTC interest rate derivatives transactions per CP.</p>
Portability	<p>Portability will be highly likely for Individual Client accounts provided that certain conditions are met. Portability will be less likely for Omnibus accounts as porting is dependent on all Clients nominating, and being accepted by, a single alternate CP.</p>
Clients	<p>The service will be available initially only to Clients that are connected with Australia (as outlined below) and 'wholesale clients' as defined in the Corporations Act 2001 (Cth). Clients must be connected with Australia in that they are:</p> <ul style="list-style-type: none"> <li>• incorporated or carrying on business in Australia; or</li> <li>• acting on behalf of an entity or entities, in respect of contracts to be registered in the Client account maintained for the Client, that are incorporated or carrying on business in Australia.</li> </ul>
Margining	<p>Initial Margin (IM) is calculated and protected at the position account level (i.e. for each Omnibus Account or Individual Client Account) and settled by the CP in a single payment or receipt as an aggregate sum across all Client Clearing position accounts of the CP.</p>
Cross Margining	<p>Eligible ASX 24 ETD may be nominated for cross-margining with the OTC portfolios for margining purposes. IM will then be calculated based on the net risk of the combined OTC/ETD portfolio i.e. including offsets. The client may elect to allocate eligible ASX 24 ETD for cross-margining by notifying their CP. The client must have both OTC and ETD Individual Client Accounts with the same CP to take advantage of cross-margining.</p>
Collateral	<p>It is the CP's responsibility to fund the margin call with ASX irrespective of the arrangements between the CPs and Clients.</p> <p>Eligible non-cash collateral is listed in Schedule 5 of the ASX Clear (Futures) Rules: <a href="http://www.asxgroup.com.au/media/PDFs/asx_clear_futures_schedules.pdf">http://www.asxgroup.com.au/media/PDFs/asx_clear_futures_schedules.pdf</a>. Cash and non-cash collateral are accepted for IM. Only cash collateral in the matching currency of the underlying trade is accepted for Variation Margin ("VM").</p>
Settlement	<p>CPs will advise ASX of collateral movements within existing settlement timeframes and processes.</p>

Attribute	ASX Client Clearing Service
	Margin calls will require settlement within existing timeframes. Client level Standard Settlement Instructions will be maintained for Individual Client Accounts in the event of default of CP
CP Default Management	<p>In the event of a default, ASX will be able to transfer (or "port") open positions, with cash collateral to the value of the associated IM as satisfied by the CP at the last end-of-day calculation, to an alternate CP nominated by the Clients (in the case of an Omnibus account) or Client (in the case of an Individual Client account). This is dependent on the alternate CP agreeing to the transfer within a defined period of time from ASX's declaration of default (OTC IRD: up to 48 hours; ASX 24 ETD: up to 24 hours).</p> <p>For OTC Client Clearing, positions that are not ported are subject to OTC Default Management Process ('hedge then auction'); associated IM (less any losses, costs and expenses) is remitted to the Client (Individual Client Account) or the defaulting CP's external administrator (Omnibus Account).</p> <p>Note: Cross margined ASX 24 ETD positions are considered part of the OTC portfolio and are treated in the same manner as OTC positions</p>

### 1.5.1 Margin Simulator

ASX will offer cross-margining for a submitted portfolio comprising of both eligible ASX 24 ETD and OTC IRD positions (see Cross-Margining). A natural expansion to the cross-margin capability is to extend the function to offer simulation and optimisation services. The Margin Simulator will allow CPs and Clients to simulate the IM requirements by cross-margining ASX 24 ETD and OTC IRD positions across cleared and custom-uploaded portfolios. As a result of this simulation CPs and Clients will be presented with total IM which is made up of:

- A. HVaR applied to the OTC portfolio and cross-margined ASX 24 ETD position
- B. SPAN applied to the residual (non-cross-margined) ASX 24 ETD positions

CPs and Clients will also be able to simulate the margin impact of a range of scenarios, such as:

- Single trade addition to existing portfolio
- Insertion of new portfolio
- Backloading of trades

Please note: Additional Initial Margins required as a result of stress test losses are not included in the Margin Simulator's Total Initial Margin calculations.

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### 1.5.2 Margin Optimiser

ASX intends to offer a Margin Optimisation Service (MOS) that will be implemented phased approach with the first phase live by Q4 2014.

The MOS will enable ASX to enhance its Clearing Service by offering:

- **Position Management:** The functionality to automatically load trade/position data into the optimiser.
- **Simulation:** The functionality to simulate margin requirements by running “what if analysis” on various scenarios including backloaded and auction trades.
- **Optimisation:** The functionality to apply the optimisation algorithm to come up with an optimum trade combination.
- **Auto Suggestion:** The system will display the results of the optimisation for end users to view and assess. The auto suggestion functionality will allow users to either accept or reject the suggested optimisation portfolio.
- **Allocation:** Allocation of ASX 24 ETD positions to obtain cross-margining benefits will be either automatic or will require user confirmation.

### 1.5.3 ASX Collateral

CPs will be able to meet OTC IRD Client Clearing service margin obligations by lodging eligible cash or non-cash collateral to ASX. ASX will use existing collateral management procedures and infrastructure already provided by ASX Clear (Futures) and has significantly enhanced its lodgement procedures for ASX Clear (Futures). CPs already established on Austraclear and NZ Clear to clear futures and settle associated payments can extend their account and lodgement procedures accordingly.

In addition, ASX has recently launched “ASX Collateral”, a centralised collateral management service that offers ASX CPs an efficient mechanism to manage and utilise A\$ non-cash collateral and provides operational and capital efficiencies in support of OTC clearing activities. For further details please see the following service description: <http://www.asx.com.au/services/asx-collateral.htm>.



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## 2 Governance Structure

The ASX OTC IRD Client Clearing Service will be governed by the same framework as the D2D service. ASX's Clearing and Settlement Board provides a focus on risk management and effective risk oversight of the OTC IRD Client Clearing service. Further information about these functions can be found in the ASX Board Charter which is available at <http://www.asxgroup.com.au/asx-corporate-governance.htm>.

ASX intends to establish the following:

- An OTC and ETD Product Committee to facilitate direct CP and Client consultation for product and service enhancements relating to ASX Clear (Futures);
- A Risk Committee for input into the ASX Clear (Futures) risk management approach and procedures. End clients will also be invited to participate in the Risk Committee.

These committees will meet regularly and enable CPs and Clients to make recommendations directly to ASX, who will respond to these recommendations in a timely manner.

ASX is committed to complying with evolving regulatory standards regarding Central Counterparty ("CCP") governance structures across all relevant jurisdictions over time.

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## 3 Participant and Account Structure

### 3.1 Participant Summary

Clients can clear their trades via a Clearing Participant ("CP"). Under the ASX Clear (Futures) Operating Rules, a CP can be:

- a. A Futures Participant (i.e. authorised to clear Futures Contracts);
- b. An OTC Participant (i.e. authorised to clear OTC Transactions); or
- c. Both.

### 3.2 Client Eligibility for OTC Client Clearing Service

The ASX OTC IRD Client Clearing service will be available initially only to Clients that are connected with Australia (as outlined below) and 'wholesale clients' as defined in the Corporations Act 2001 (Cth).

Clients must be:

- incorporated or carrying on business in Australia; or
- acting on behalf of an entity or entities, in respect of contracts to be registered in the client account maintained for the Client, that are incorporated or carrying on business in Australia.

Clients will be onboarded to ASX via their chosen CP(s).

### 3.3 Segregation of House and Client

A CP's House positions and collateral will be segregated from a CP's Client account. The position segregation options that will be offered as part of the ASX Client Clearing Service are described in the remainder of this section.

#### 3.3.1 Client Account Types and Account Structure

The features of the Client Clearing account structure that will be offered by ASX are:

- A choice of account types for client positions (CPs may choose not to offer all account types)
- Client 'book level' position reporting (For OTC IRD)
- Separate client position accounts for ASX 24 ETD and OTC derivatives, with the ability to cross-margin
- This proposed Account Structure is illustrated in Figure 1 below
- Comingled client collateral account per CP

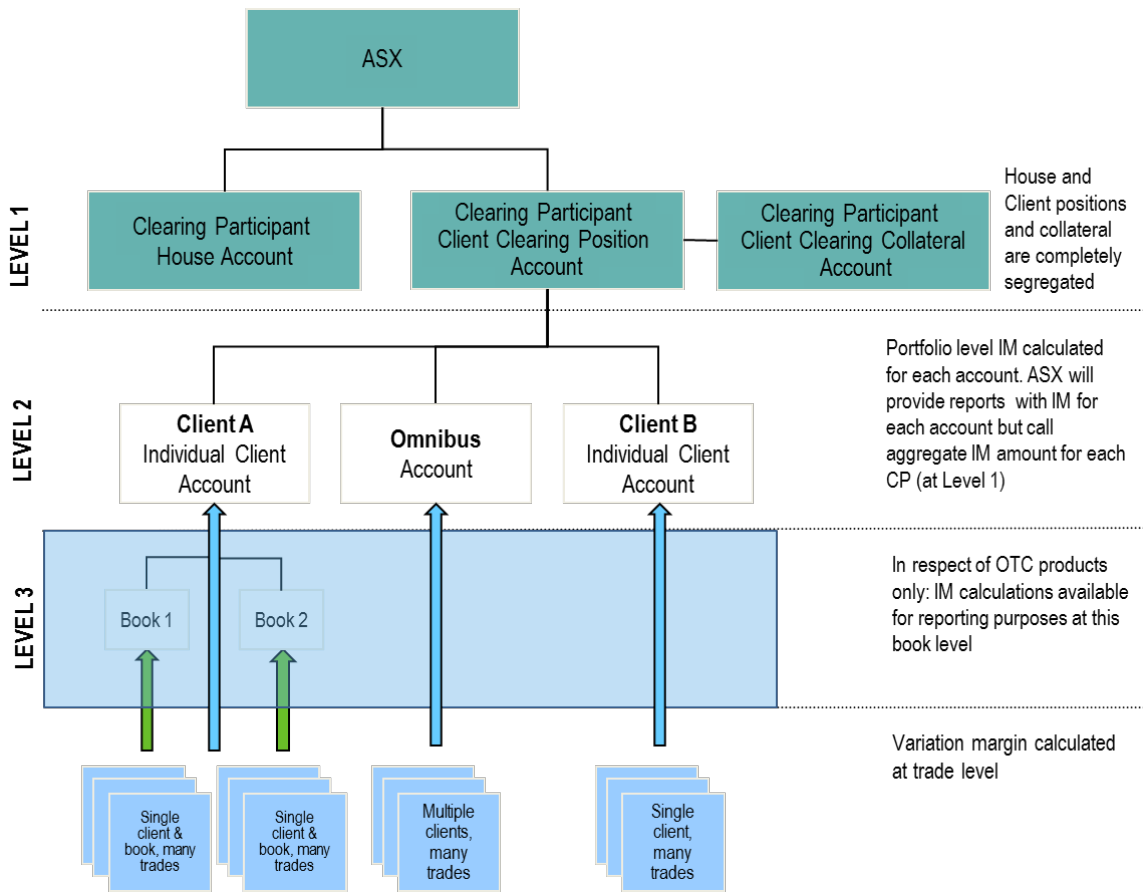
ASX will support two account types for Client Clearing:

1. **Omnibus Client account** – this account type records open positions held by a CP on behalf of one or more Clients. ASX calculates IM on the net position in this account. Portability is less likely for Omnibus Accounts as porting is dependent on all Clients nominating, and being accepted by, a single alternate CP.

2. **Individual Client account ‘without excess’** – this account type records open positions held by a CP on behalf of a single Client. IM is calculated on the basis of that Client’s positions only. This allows ASX to port the Client’s positions and associated IM in the event of the CP’s default. If the Client’s positions are not ported, ASX will close out the positions and return the associated IM to the Client directly, less any losses, costs and expenses attributable to closing out the positions. Collateral is not segregated at the individual client account level and therefore collateral held by ASX in excess of the IM requirement with respect to the Client’s positions cannot be ported with the positions and associated IM. Excess collateral is returned to the defaulting CP’s administrator for Clients to claim.

Each CP can (but is not obliged to) offer multiple Omnibus Client accounts and Individual Client accounts. The diagram below shows an example of the accounts that a CP could have under its Client account.

Figure 1 – The proposed Account Structure



ASX intends to consult stakeholders in 2014 on the design and implementation of the following additional account types:

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**Individual client account ‘with excess’** – as for Individual Client Account ‘without excess’, except that collateral is segregated at the individual client account level and therefore excess collateral held by the clearing house may be ported with the Client’s positions and associated initial margin. Unlike Individual client account ‘without excess’, this option requires CPs to report to the clearing house the value of excess collateral posted to the clearing house that is referable to each of its client accounts; and

**‘Fully segregated’ individual client account** – one possible ‘fully segregated’ approach may be where a Client’s positions and collateral are segregated from those of other Clients, and the clearing house records the cash and specific non-cash collateral (i.e. the particular or equivalent securities), rather than a single initial margin value (as under Individual Client Account ‘without excess’ and Individual Client Account ‘with excess’), in respect of the Client’s account. The positions and the actual collateral held by the clearing house in respect of the Client’s account can be ported in the case of a CP default.

### **3.4 Account and Client static data maintenance – Static Data Portal**

The Static Data Portal is intended to allow ASX, CPs and Clients to manage static data intended for use in OTC IRD and ASX 24 ETD Client Clearing services via a readily accessible and high availability web data portal. Clients will be able to validate the following information to ASX<sup>2</sup>:

- Client name, Identifier (LEI or other recognised identifier), address
- Nomination of account type (Individual Client Account or Omnibus Account)
- MarkitWire Participant ID
- Client Default Management Contacts
- Client legal contacts
- Client operations contacts
- Client’s alternate CP(s) for Individual Client accounts

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<sup>2</sup> CPs will initially provide Client name, identifier, account type and MarkitWire Id, as part of the onboarding process

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## 4 Product Scope

ASX's eligible product set for clearing on the OTC IRD Client Clearing Service will align with the eligible product set for ASX OTC D2D services. The scope of the service will increase in future phases in line with participant and regulatory requirements. Outlined below is the existing product set.

Product	Basis	Max. Maturity	Index Tenor	Index
A\$ IRS	Fixed/Float	To 30 years	3M, 6M	BBSW
A\$ Single Ccy Basis Swaps	Floating/Floating	To 3 years	3M, 6M	BBSW
A\$ OIS	Fixed/Float	To 3 years	Daily	AUD-AONIA-OIS-COMPOUND

A full list of eligibility criteria is available in Schedule 1 of the OTC handbook at:

[http://www.asxgroup.com.au/media/PDFs/asx\\_otc\\_handbook.pdf](http://www.asxgroup.com.au/media/PDFs/asx_otc_handbook.pdf)

ASX intends to launch further service enhancements and offer amongst others:

- Increased choice of BBSW tenors, forward start and extended OIS maturities
- A\$ FRAs
- NZ\$ vanilla IRS / OIS

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## 5 Service Availability

While eligible trades may be submitted for clearing on a 24 hour basis, trade registration will take place between 06:00 and 21:00 (NSW time) on valid ASX business days. During these hours, trades will be novated in near real time, subject to both submitting trade counterparties having sufficient limit headroom. Outside of these hours, trades will remain in an Approved Trade Source System (see 7.1) pending the next clearing service opening hours.

The latest time that collateral may be posted is subject to existing Austraclear and RITS system availability for A\$ collateral.

In the future, service availability hours may be extended beyond the 15 hour operating cycle if demand warrants.

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## 6 Client Onboarding

ASX is developing an onboarding process to ensure that:

- Clients are able to meet ASX's requirements;
- Clients are able to understand and operate within ASX's processes;
- Clients have the opportunity to ask questions and receive the support to embed new processes internally.

Clients will be onboarded via their chosen CP(s). ASX will support that process by offering the following:

- Frequently Asked Questions (FAQ) – there are separate FAQ documents currently available for CPs and Clients online to provide guidance on the practical and operational issues of the proposed OTC IRD Client Clearing service: <http://www.asx.com.au/services/otc-clearing.htm>. While some of the information in this document is relevant for ASX 24 ETD Client Clearing, ASX has a specific FAQ document to deal with ASX 24 ETD Client Clearing: <http://www.asx.com.au/services/clearing/asx-clear-futures.htm>
- Client Impact Assessment – this document will soon be available from the ASX OTC IRD Client Clearing Business Development team. It highlights the main work streams that would be expected to be in place at a Client in its preparation for OTC IRD Client Clearing. This will help Clients to:
  - understand the impact of clearing on their operating model and operational flow
  - understand the processes and role of all participants in the Clearing service
  - ensure they get the maximum benefit and service

As part of this document, there is a detailed checklist to provide a step-by-step guide.

There will be further detail in the procedural documentation and the ASX Clear (Futures) Operating Rules which will be circulated at a later date.

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## 7 Trade workflow and lifecycle events

This section of the document describes the process by which clients submit a trade for clearing to ASX. It also examines the conditions that must be met before ASX will accept a trade for clearing and therefore interpose itself between the two CPs for the initial parties to the trade.

### 7.1 Trade Source

OTC IRD trades eligible for the ASX OTC IRD Client Clearing service will still be executed bilaterally according to prevailing market practice. These trades can be sent to ASX via an "Approved Trade Source System". Currently only one Approved Trade Source System connects to ASX<sup>3</sup>, although further routes to clearing may be implemented in the future.

### 7.2 Trade Validation and Novation

ASX's proposed Client Clearing service will not impact the way that trades are initiated and executed. This will remain the same as a bilaterally agreed trade with the following additional steps and information provided.

At time of agreeing the trade, in addition to agreeing normal trade terms the client will also agree the following with its executing broker:

- a) That the trade is to be cleared
- b) Who the Clearing Broker should be (i.e. an existing ASX CP)
- c) The allocation of trade if necessary (please refer to Block Trade Allocations)
- d) The venue where the trade will be cleared i.e. ASX

The trade will need to be entered and affirmed on the Approved Trade Source System; accordingly all clients will need to be connected to the affirmation platform. When a CP has consented to clear a trade on behalf of its Client, the Approved Trade Source System will submit the trade to ASX for clearing. ASX will use "futures-style novation" which enables ASX to automatically novate new trades when they are submitted for clearing provided that they meet ASX eligibility requirements for ASX to continue clearing new trades for that CP's clients. Note: it is the CP / Clearing Broker's responsibility to ensure that there is sufficient collateral in place for its clients.

If a new trade passes all eligibility checks then it will generally be registered for clearing within 60 seconds of receipt by ASX. However if ASX intervention is required due to a breach of the eligibility rules, or because ASX identifies at any point that there is a collateral shortfall, then the trade registration process will take longer (or may be stopped altogether).

ASX maintains exposure limits for each CP and for each ICA and Omnibus account within the CP. Where ASX determines that the exposure in respect of CP's clients is likely to exceed the intraday exposure limits set, ASX will contact the CP and ask it to post additional collateral intraday. If the CP is unable to post additional collateral, the ASX may advise the CP that no further trades will be novated for that Business Day. Such a scenario is expected to be a rare event.

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<sup>3</sup> Currently only MarkitWire



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### 7.3 CP Consent to Act as CP for its Client

In order for ASX to accept the trade an electronic record of the trade being affirmed and then accepted by the CP needs to be evidenced. This is achieved when the client affirms the trade in the Approved Trade Source System and nominates its Clearing Broker (i.e. CP in ASX terms). The Approved Trade Source System will then send the details of the trade to the CP. The CP will check the trade details against criteria already agreed with its client, e.g. credit limits etc. and, if the trade is accepted by the CP, it will send a notification back to the Approved Trade Source System taking up the trade on the client's behalf. In the Approved Trade Source System this is referred to as Prior Take-up. As soon as the Approved Trade Source System receives this notification of prior take-up acceptance from the CP it will send the trade to ASX for clearing.

### 7.4 Trade Backloading

Backloading is the process of clearing an individual or a batch of historic trades (i.e. trades executed bilaterally in the past that are eligible for clearing, but have not yet been cleared).

Backloaded trades will be affirmed by the original counterparties and consented to by the receiving CP prior to being submitted to ASX for clearing via an Approved Trade Source System.

The ASX definition of backloading is any trade where the trade date is greater than 2 business days old.

ASX intends to facilitate the backloading of any historic trades that are eligible for clearing, or become eligible for clearing as ASX's OTC IRD Clearing Service expands. ASX will support the process by providing CPs with the necessary risk tools and reports to analyse the margin impact/requirements of a backloaded portfolio.

ASX also intends to queue all backloaded trades until the end-of-day ("EOD") and process in the EOD batch cycle. One consolidated margin call may therefore be made T+1. On receipt of the call amount ASX will clear and register the trade.

### 7.5 Trade and Position Transfer

ASX will support trade and position transfers to cover the following scenarios

- Full position transfer – All trades for the that Client/CP account will be transferred to another Client/CP account
- Partial position transfer – One or more trades are transferred from Client/CP to another Client/CP
- Account type transfer – Moving a Client's position from an Omnibus account to a position account of an individually segregated Client; and from a Net Omnibus account/CP to an individual Client/CP

BAU transfer requests are initiated by the Client and submitted by the receiving CP to ASX for action. Agreement from both the "old" existing CP and the "new" receiving CP is required in order for ASX to action a transfer request.

In all cases ASX will produce margin estimation reports so that all parties are aware of the impact of the transfer request. The transfer will only be confirmed should there be sufficient collateral in place from the relevant parties.

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## 7.6 Supported Lifecycle Events

ASX will be able to manage events that will occur throughout the life-cycle of the trade. Life-cycle events may be initiated by the CP on behalf of its client or may occur as per the terms of the trade and hence require no separate instruction. Below we give consideration to the following event types:

CP-initiated:

- Trade netting
- Trade amendment (economic and non-economic)
- Trade termination (full and partial)

## 7.7 Trade Netting

Trade netting is a process used when a Client wishes to amend or terminate a trade that is already cleared. The Client transacts an offsetting trade which is then netted against existing trades that meet matching trade economic criteria. Trade netting functionality will be a central part of the trade termination and amendment process.

Netting functionality at ASX can be automatic or manual. A client can choose whether netting is automatic or manual via its CP. The process for netting is as follows:

- If netting is not set to automatic the client will contact its CP with the identity of the trades to be netted. The CP will then inform ASX of the trades that are to be netted.
- If netting for that account is automatic than no action is required

Netting will occur in the next end of day.

## 7.8 Trade Amendment

It is not possible to amend a cleared a trade however it is possible to close out the existing trade and re-establish a new one with the desired economic details by creating an equal and opposite trade that can then be netted against the existing trade. Upon netting a new trade with the required terms can then executed.

## 7.9 Trade Full or Partial Termination

Similarly to trade amendments it is possible to fully or partially terminate a trade/s by entering an equal and opposite trade and applying ASX's netting functionality for close out. If the amount on the offsetting trade is the same as the original trade both trades will be netted and terminated, if it is less than the original trade then the termination will be partial Specific trades can either be manually nominated for netting, or the netting can be automatically performed on a selected portfolio.

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## 7.10 Cashflow Management

ASX will calculate cash flow for cleared portfolios on a daily basis. The primary components of this cash flow will be:

- Coupons
- Additional payments (e.g. fees)
- Margin requirements
- Price Alignment Interest (treated by ASX as part of Variation Margin)

At the end of each business day, ASX will calculate the net cash settlement for each CP and issue a consolidated call per currency in the morning of T+1. This represents liabilities with respect to the CP's own proprietary business as well as all aggregate client accounts.

ASX requires that CPs instruct all margin call cash settlements within 2 hours of the relevant call being made. In the exceptional circumstances that such a call is not met, ASX has a defined escalation process with the CPs.

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## 8 Collateral Management and Margin Calls

### 8.1 Collateral Management Overview

CPs can meet their margin obligations by lodging eligible cash or non-cash collateral to ASX. ASX uses existing collateral management policies and mechanisms. ASX issues all margin calls to CPs. Each CP may have different margin call and collateral payment arrangements in place with its client(s). Clients should liaise with their CP in relation to their individual margin call procedures.

ASX has significantly enhanced its lodgement procedures for ASX Clear (Futures) and extended them to the OTC IRD Clearing Service, so that CPs already established on Austraclear and NZ Clear to clear futures and settle payments can extend their account and lodgement procedures accordingly.

In addition to ASX Collateral (see 1.5.3), ASX Margin Control is a portal for CPs that provides daily cash settlement advice, allows lodging of non-cash collateral and maintenance of standing instructions.

ASX plans to extend its eligible collateral list to include suitable overseas government debt via access to the Central Securities Depository pools in both Clearstream and Euroclear.

Below, we describe ASX's implemented approach to collateral management and margin calls.

### 8.2 Collateral segregation

Each CP will have two collateral accounts: one representing collateral supporting house activities and the other a completely separate account representing client clearing activities. Additionally, all client position accounts are legally segregated from each other, which means that each client account is protected against any losses arising from another client account.

The CP is responsible for posting margin and managing margin calls with ASX on behalf of its Clients, whether they hold positions in Omnibus accounts or Individual Client accounts. Clients will post collateral as margin with their CP, and the CP will post collateral (but not necessarily the same collateral) with ASX to satisfy margin requirements. This will allow CPs to offer flexibility to Clients e.g. services such as collateral transformation.

### 8.3 Cash Collateral

ASX accepts cash collateral in the currencies listed in Section 5 of the OTC Handbook ([http://www.asxgroup.com.au/media/PDFs/asx\\_otc\\_handbook.pdf](http://www.asxgroup.com.au/media/PDFs/asx_otc_handbook.pdf)), and valued at the corresponding haircuts. These can be lodged as per current cash collateral arrangements whereby A\$ cash is lodged at Austraclear, NZ\$ cash at NZ Clear and other currencies with commercial banks.

Settlement requirements on each business day will be notified to all Clearing Participant at the start of day, and confirmed at approximately 9:15am (Sydney time). ASX requests that the overnight margin calls (i.e. those from the previous end-of-day run) are settled by 11:00am (Sydney time).

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## 8.4 Non Cash Collateral

ASX accepts securities of high credit quality and with sufficient levels of liquidity. ASX applies appropriate valuation haircuts across securities as determined on the basis of stressed potential price movements<sup>4</sup>. Eligible non-cash collateral is listed in Schedule 5 of the Futures Rules:

([http://www.asxgroup.com.au/media/PDFs/asx\\_clear\\_futures\\_schedules.pdf](http://www.asxgroup.com.au/media/PDFs/asx_clear_futures_schedules.pdf)). These can be lodged as collateral at ASX, as per the current lodgement procedures.

ASX uses a consultative approach with CPs when reviewing current and proposed eligible securities to ensure a demand-driven approach to collateral expansion.

The non-cash collateral that the CPs may be prepared to accept from its Clients will be subject to agreement between the Client and its CP(s).

## 8.5 End of Day Margin Requirement

On a daily basis ASX will aggregate a CP's total margin liabilities including client accounts and compare this to the value of lodged collateral at ASX (including cash collateral). Should there be a deficit, ASX will issue a call to the relevant CP at the beginning of the next local business day.

Please see Cash Collateral above regarding the timeframes for meeting daily calls. These are applicable for meeting the end of day margin call as well.

## 8.6 Intraday Margin Call

ASX may call CPs for additional collateral on an intraday basis to cover both proprietary and client exposures. ASX's current policy and procedure accommodates a mix of scheduled and ad hoc intraday margin calls throughout the day and based on the level of market volatility relative to existing margin cover.

Once ASX has made an intraday margin call, CPs will need to make a cash collateral margin payment within the required timeframe (currently two hours). ASX will accept only cash from CPs to meet any intraday calls.

ASX calculates margin requirements at scheduled intervals intraday and at the end of each business day on both OTC IRD and ASX 24 ETD positions. ASX has scheduled intraday margin calculations that run each business day at 8:30am and 11:00am that re-value positions (for Variation Margin requirements). If sufficient margin erosion has occurred on positions, an intraday call will be made. ASX will contact the CP via phone and provide an emailed report (Margin & Position Listing Report) which identifies the amount that the CP needs to settle within 2 hours of the call being issued.

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<sup>4</sup> As per FSS standards, please see <http://www.rba.gov.au/fin-stability/index.html>

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# 9 Risk Management

## 9.1 Overview

ASX Clear (Futures) has a multi-tiered approach to risk management. CP membership criteria provide the first level of protection should a Clearing Participant default followed by further financial resources within the Default Waterfall. There are tests to cover both normal and stressed market conditions. This is complemented by daily oversight of exposures and the ability to take action to mitigate risk intraday.

The margin approach is based on methodologies that are commonly in use at other CCPs for OTC IRD Clearing, and are considered to meet international best practice.

Effective risk management is dependent upon a robust and enforced policy framework and infrastructure that identifies the key components for margining. These are:

- Variation Margin ("VM") – Daily Mark to Market ("MTM") value of each cleared trade calculated at end of day, and defined as the daily change in CVM on open positions.
- Initial Margin ("IM") – The potential future exposure that closing out a portfolio of cleared trades may present to the CCP in the event of a CP default. In calculating IM, it is assumed that the portfolio is reasonably balanced and liquid.
- Credit Add-on – An additional margin based on ASX's assessment of the CP's credit quality.
- Liquidity Add-on – An additional level of IM used to account for potential additional costs caused by closing out an illiquid or highly concentrated portfolio.
- Capital Based Position Limit (CBPL) – an additional level of IM used to ensure that CPs do not accumulate positions that exceed their financial capacity.
- Price Alignment Interest ("PAI") – A cost used to compensate CPs for the loss of alternative investment opportunities incurred through funding VM on a cleared portfolio.
- Stress Test Additional Initial Margins (AIMs) – Additional Initial Margin requirements that may arise through ASX's stress testing regime that attempts to quantify ASX's potential losses (in the event of a default) to each Clearing Participant in extreme but plausible market conditions.

The margin requirements calculated are a primary daily obligation that the CP is required to collateralise with ASX on the client's behalf<sup>5</sup>.

The following sections detail the key aspects of the ASX risk management control and oversight. This description is intended to apply under normal market conditions; however ASX reserves the right to make additional margin calls to CPs in stressed market conditions or to alter the margin methodologies as deemed necessary.

Documents providing further detail on the Variation and Initial Margin methodologies are available from ASX Risk on request.

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<sup>5</sup> It should be noted that the amount of margin the client is expected to settle with its CP does not have to match ASX calculations, for example the CP may require additional buffers, although it may be the case that such a pass through is made. Clients should liaise with their CP to confirm their Risk Methodology on the account.

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## 9.2 Variation Margin

Variation Margin represents the daily Mark to Market on an OTC Participant's cleared portfolio, and is taken as the daily change in Net Present Value ("NPV"). In determining the NPV on cleared OTC positions, ASX constructs a yield curve based on market prices or rates for benchmark OTC instruments (or the nearest hedging equivalent), and calculates a value for all known and forecast cash flows. ASX is proposing to derive an OIS curve in order to create a discount factor to apply to all cashflows. This method is consistent with international best practice, with the LIBOR curve being used for forecasting floating rate cash flows and the OIS curve creating a discount rate. The total NPV across all relevant cleared trades corresponds to each CP's and client's accumulated VM, and is calculated both intraday and at end of day. Details of the end of day yield curve are published daily by ASX to CPs.

The daily movement in NPV is equivalent to the daily VM obligation faced by each CP (or intraday movements in the case of intraday VM obligations). VM is additive across trades, and therefore is attributable to client accounts and to the individual trade level.

All VM settlements are required to be in paid in cash in the same currency of the underlying products to ensure that ASX has a net zero balance across all CP VM balances and reduce the Treasury Investment and Foreign Exchange risk.

## 9.3 Initial Margin

Initial Margin (IM) represents the estimated worst probable forward looking losses that the portfolio may incur:

1. in the event of a default;
2. in the time that it is anticipated would be taken to neutralise the portfolio, i.e. the holding period; and
3. under normal market conditions

ASX has implemented a Filtered Historical Simulation Value-at-Risk ('HS VaR') model to calculate IM consistent with best practice for OTC IRD CCPs.

HS VaR measures the maximum potential loss a CP portfolio is expected not to exceed with a given probability, the confidence interval), over a given period of time, i.e. the holding period. The 'filter' ensures that historic returns are scaled according to current market volatility thus ensuring the model adjusts to prevailing market conditions.

The key model parameters are to be confirmed nearer to go live but are expected to be :

- **Historical data period** – a rolling 5 year window (equivalent to 1,250 observations) of daily price history, that will be extended to include the Q4 2008 period of extreme volatility;
- **Holding period** – 5 days;
- **Confidence Interval** – representing the risk appetite currently set at 99.7%; i.e. to cover 99.7% of expected losses.
- **Market Volatility** – the application of a scaling factor to allow the adjustment of historic returns. Additionally, there is both a weighting factor to allow more emphasis to be place on recent market conditions as well as a volatility 'floor' to limit the dampening factor during benign periods.

A portfolio based approach is used, and hence offsets both within currencies and across currencies will apply. For each scenario a net profit or loss is calculated jointly across all positions intra-yield curves, therefore taking into account portfolio correlation effects. The scenarios are then ranked and interpolated to arrive at a 99.7% confidence level.

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## 9.4 Credit add-on

At its discretion ASX may apply a Credit Add-on to a CP's IM depending on ASX's assessment of that CP's credit quality.

## 9.5 Liquidity add-on

The HS VaR model calculates IM under the assumption that positions are closed out at market mid prices. This assumption implies that any given trade/position size will be absorbed by the market without having an impact on liquidity. However, given that clearing is an accumulation of multilateral exposures, centrally cleared portfolio positions under a default scenario may potentially be much larger than those transacted on a bilateral basis. So, should a defaulted position be beyond standard quoted size for any particular maturity, this may challenge some of the assumptions of the IM model, specifically the holding period and the mid-price closure.

ASX could therefore incur additional expense in a default for the following two reasons:

- 1) The trade is potentially larger than the standard bid/ask spread allows for, but the hedge counterparty will accept the trade given an increase in spread, i.e. a 'liquidity premium'; and/or
- 2) The hedge counterparty will not accept the entire size of the trade thus increasing the total time necessary to close-out the entire position.

To protect ASX against the costs of liquidity risk a liquidity add-on may be charged for concentrated positions. The size or level and potential costs of concentrated positions are determined by market surveys with CPs and are reviewed periodically.

Should any clients have large concentrated positions, the same multipliers will apply. However, there is no aggregation of concentration with the CP's proprietary positions or with other clients.

## 9.6 Capital Based Position Limit (CBPL)

ASX Risk Management may call additional margin where a CP's exposure relative to its financial capability is seen as excessive. Alternately, a CP may inject more capital on to its balance sheet to enable it to continue to run the exposure without paying additional margin. If a CP's total IM exceeds twice their Net Tangible Assets ("NTA"), ASX Risk Management will call the CP for additional margin. Client positions will contribute to the exposure of a CP in measuring CBPLs. However, the likelihood of CBPL being triggered is considered to be minimal.

## 9.7 Price Alignment Interest (PAI)

The PAI is directly linked with the VM on a portfolio. As VM represents a cash realisation of profit and loss, there is therefore compensation of funding costs applied via the application of interest to the outstanding VM balance. PAI represents that compensation to an out-of-the-money CP for the loss of investment opportunity incurred in (indirectly) paying VM to the in-the-money CP via ASX. This also ensures that there is no disincentive to backload historic trades/portfolios that would have been valued by CPs in bilateral markets at a different level than that arrived at by ASX.

Every day a calculation is made of the daily interest owing based on the overnight cash rate relevant to the portfolio and a net debit or credit settlement is made. As with VM, PAI is always in the same currency as the underlying product, with ASX being net zero across all its CPs and clients.



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## 9.8 Additional Initial Margins (AIMs)

The system of Additional Initial Margins (AIMs) has been extended to the OTC Clearing Service in order to give greater certainty that ASX's financial resources are sufficient to meet regulatory capital requirements at all times and to manage default exposures presented to the single Default Fund. Under this approach, when the daily stress testing results for a CP exceed its pre-determined Stress Test Exposure Limit (STEL) that CP will need to collateralise the deficit in the form of additional initial margins ('AIMS'). The STEL is derived from the size of ASX's financial resources and the counterparty standing of each CP.

Although ASX does not directly charge the client AIMs, reporting is provided to CPs detailing exposures across all accounts. If an AIMs call is made, the CP may choose to recoup the costs or pass on a portion of that AIMs requirement to the end client.

## 9.9 Cross-Margining

An important feature of ASX's service proposal is the opportunity for cross-margining between ASX 24 ETD and OTC products. Initially, the list of eligible ASX 24 ETD is restricted to interest rate bond and futures contracts (e.g. A\$ 30D interbank cash rate and 90D bank bill futures, 3Y and 10Y A\$ bond futures). The list may be extended to incorporate other exchange traded products in the future.

Eligible Futures Contract Code	Contract Name
IB	ASX 30 Day Interbank Cash Rate Futures
IR	ASX 90 Day Bank Accepted Bill Futures
YT	ASX 3 Year Treasury Bond Futures
XT	ASX 10 Year Treasury Bond Futures

ASX will allow CPs to select the ASX 24 ETD positions to be margined as part of their OTC positions on behalf of their clients. ASX plans to offer a cross-margin optimisation tool that will allocate the eligible ASX 24 ETD positions in such a way as to minimise the overall cost of margining (i.e. not over-margin the net position). Clients can allocate eligible ASX 24 ETD for cross-margining via their CPs.

A precondition for subscribing to the cross-margining service for CPs will be that entities must be both ASX 24 ETD and OTC CPs. Clients that want to take advantage of the cross-margining feature must have both a separate OTC and ASX 24 ETD individual client account with the same CP. IM requirements for cross-margined portfolios are calculated using HS VaR, i.e. cross-margined ASX 24 ETD positions are not margined using the SPAN methodology<sup>6</sup>. Eligible ASX 24 ETD allocations must be completed by 7:00pm AEST or AEDT on each Clearing Business Day for inclusion in the end of day margin run.

ASX intends to provide daily reporting which can be accessed by CPs to reconcile OTC and ASX 24 ETD margin values. A full breakdown of all margins and cashflows will be provided.

In the event of an OTC CP default, non-defaulting OTC CPs may have to bid for a cross-margined portfolio. CPs therefore need to be able to clear the cross-margined ASX 24 ETD. If a CP does not directly clear ASX 24 ETD, it must appoint a CP on its behalf who does clear them.

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<sup>6</sup> Five Business Days prior to expiry of the cross-margined ASX 24 ETD positions, these positions will no longer be eligible for cross-margining but will be SPAN margined

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## 10 Default Management Overview

### 10.1 ASX Default Management Procedure Overview

The principal objectives of the ASX OTC IRD Client Clearing service are:

- To provide a high degree of confidence that clients will be able to maintain their cleared positions in the event that their CP defaults (principally achieved through porting arrangements); and
- To effectively manage, and ultimately resolve, the positions of a defaulting CP, thereby guaranteeing the performance of the trades of all surviving CPs and clients.

The provision of an appropriate Default Management Procedure (DMP) detailing how these objectives will be achieved is therefore an essential component of ASX's core activities. ASX's DMP will maximise client portability and minimise client costs in the event of close out whilst ensuring non defaulting CPs and clients can continue with 'business as usual' (BAU).

ASX maintains a separate, dedicated DMP for the OTC IRD Clearing service, which will encompass the management of Client positions and reflect the unique risks and challenges posed by an OTC default. This OTC DMP has been formulated to align with international best practice, with specific customisations to support the unique features of the Australian market. The ASX DMP is also designed to explicitly comply with FSS standards and recommendations.

Additionally, as the OTC IRD Client Clearing service evolves and ultimately matures, ASX will continually update the DMP to ensure its appropriateness for the market it serves.

### 10.2 Pre Default Monitoring and Default Activation

ASX Clear (Futures) employs a robust risk monitoring framework to ensure that all risks in its clearing services operated are effectively identified, managed and, where appropriate, collateralised. This framework extends to the OTC IRD Client Clearing service as part of the OTC DMP, including all relevant existing risk controls (such as Stress Testing Exposure Limits and additional margin frameworks). Furthermore, the OTC IRD Client Clearing service leverages the existing ASX Clear (Futures) default definitions (with a small number of additional conditions for OTC) and default declaration process.

ASX will extend its current default communication procedures to accommodate the requirements of the OTC IRD Client Clearing service. This will ensure the effective use of communication cascades to appraise CPs, regulators, clients and other key stakeholders of both the declaration of default, and the on-going default management process.

### 10.3 Client Segregation and Portability

Once a CP is declared in default, all clearing activity of the CP is stopped, and any Clients of the CP are placed into a temporary hold status. Any trades that are pending at this stage are likely to remain uncleared. However, if a Client is using two or more CPs to clear, the Client will still be able to trade with the non-defaulting CP(s) (albeit without access to the positions and assets held at the defaulting CP).

If Clients have Individual Client accounts with the defaulting CP, they can opt to transfer their positions and cash margin (up to the guaranteed initial margin value, see glossary) to an alternate CP. Such transfers require the assent

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of the receiving CP – with ASX acting to facilitate the process. However, if Clients are part of an Omnibus account, it is probable the positions in that account will be closed out.

Clients will have a maximum 48 hour window to transfer positions to an alternate CP. For a transfer to be accepted, the alternate CP will evaluate the client's portfolio and make a decision to accept or reject the transfer.

If multiple alternate CPs are available to a Client, the Client can state their preference as to which alternate CP should be prioritised to receive the transfer. If no alternate CP has been nominated by the client in advance, the client may use the 48 hour period to attempt to find an alternate. However, in a default management environment there is an increased risk that no suitable alternate can be found to receive a client portfolio. As such, it is advisable for clients to put an alternate CP in place, and maintain a relationship with such alternate CPs, as part of BAU activities.

In the event that porting Client positions to another CP cannot be facilitated, the portfolio will be closed out. In such cases, ASX maintains the right to combine the defaulting CP's non-ported Client accounts with the defaulting CP's House account to be closed out. In doing so, ASX will expedite the default management process, and restrict the total default management losses incurred. However, the Client account collateral held by ASX will remain segregated from the assets of the house account during this process, with total default management losses allocated based on relative risk of the combined portfolios (based on the point at which they were combined).

If the open positions in an Individual Client account are closed out rather than ported, ASX will return to the Client the IM value less the costs of close out and any additional losses incurred once the default management process has been completed. ASX does not currently guarantee any over-collateralisation provided by a CP on behalf of its Client in excess of the guaranteed IM value. Any excess collateral lodged with the CP by a Client will need to be recovered via the CPs administrator.

#### **10.4 Client-Only Default**

In the event of a Client-only default (i.e. all CPs are unaffected), no default management action will be taken by ASX. In such cases, it is the Client's CP who is obliged to manage the defaulting Client's positions and close them out. ASX can, upon request and receipt of notification from the CP that the Client is in default, assist the CP in the transfer of Client positions into the CP's house account.

If a defaulting Client is part of an Omnibus account, other Clients in the Omnibus account will potentially be exposed to the losses resulting from the default of the Client, dependent on the arrangements in place at the CP (Omnibus Clients are advised to request this information from their CP). Clients with an Individual Client account should not be directly affected by another Client's default.

#### **10.5 Strategy and Risk Reduction**

In the event of a CP default ASX will follow a two stage risk reduction and mitigation strategy to resolve the defaulted portfolio(s), and ultimately return the defaulter's positions to the BAU clearing service (including the positions of any non-porting Clients). This two stage strategy encompasses:

- Executing hedge transactions with surviving CPs to reduce the risk in the defaulted portfolio(s) to manageable levels; and
- Auctioning the risk-reduced portfolio to surviving CPs.

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To ensure the successful resolution of a default, and thus the protection of the CCP, CPs and Clients resources, ASX will consult a group of dealers nominated by the CPs throughout the default resolution process (the Default Management Group, or DMG).

Such DMG participants will be asked to formulate a hedging and risk reduction strategy, provide guidance on the auction approach and format, and ultimately assess the auction bids. Whilst the ASX will make the final determination of the strategy to be followed, the DMG will also be charged with the responsibility for the execution of the strategy authorised by the DMG (in particular execution of hedge trades).

In the event of a default involving a CP and non-porting Clients, it is almost always beneficial to combine portfolios for hedging and auction purposes and hence reduce the costs and risk of loss. ASX has taken this approach and designed the DMP accordingly. There is a risk-based method for allocating the cost or losses across the portfolios impacted.

ASX will have in place a robust process for preparing a physical environment for the use of the DMG during the hedging stage, which will be made available to the DMG within a short timeframe. ASX will provide all the necessary systems, analytics, market data and user rights for the DMG to perform these tasks.

## 10.6 Auction

Once the portfolio of defaulted trades has been sufficiently hedged, surviving CPs that have open positions in the OTC contract types and currencies comprising the portfolio at the time of default will be obliged to value the auction portfolio, and make bids to ASX based on their valuation. Although not required to participate in a Default auction, Clients may also chose to participate in a default auction, which would need to be agreed with their CP, who would intermediate on their behalf throughout the auction phase. The auction winner(s) will then be obliged to take ownership of any trades won in the auction(s), and assume responsibility for such trades through to maturity.

ASX currently anticipate that all default auctions will be held on the basis of anonymised, non-public bids provided by telephone, and a 'Highest Bidder Wins' ("HBW") format. However, ASX will reserve the right to hold a 'Multi-Unit' auction with portfolios divided into identical units, or any other reasonable auction format.

ASX may also choose to split a defaulted auction portfolio into sub-portfolios on any reasonable basis (currency, tenor, carry, etc.), should the DMG advise that such a split would be likely to generate the most favourable auction outcome. In cases where an auction portfolio is split, ASX will also split the available default resources, using relative risk (i.e. the respective IM for each sub-portfolio) to allocate the pool of default resources applicable to each auction sub-portfolio. However, this allocation of resources is primarily for the purpose of reconciling the Juniorisation of OTC CP default fund contributions for each auction pool (see Auction Bid Incentivisation below), and will not be applicable to any Clients participating in the auction.

## 10.7 Recovery and Resolution

ASX is committed to engage with the OTC Foundation customers, CPs, Clients and regulators to comply with the new regulatory standards on recovery and resolution.

## 10.8 Auction Bid Incentivisation

ASX will apply an auction bid incentivisation mechanism to encourage competitive bidding amongst CPs in a default auction. This will ensure that CPs are financially motivated to bid well at any auction, to thereby prevent ASX and the contributors to its default waterfall from sustaining inappropriate losses.

## 10.9 Default Waterfall

The Default Waterfall defines the financial resources available to ASX in managing a CP default (including any non-transferable clients), specifically:

- the scale of financial resources available to ASX;
- the order and circumstances in which those financial resources are to be accessed by ASX;
- individual stakeholders' potential (and resulting) liability; and,
- the balance between loss mutualisation and "defaulter pays" models i.e. the relative losses absorbed by a defaulting CP's margin or shared among surviving CPs' default fund contributions.

ASX offers an FSS compliant waterfall that distinguishes between the consequences of a default by an OTC-only CP, an ETD-only CP, and a CP that clears both OTC and ETD. The previous ASX Clear (Futures) default waterfall (which used to support only ETD activity) has been extended to the OTC IRD Client Clearing Service through the addition of a tranche funded only by OTC CPs, thereby maintaining a single default fund. As shown in Figure 2, this has been achieved by the application of the waterfall using a different priority of payments depending upon which type of CP has defaulted ("Futures CP" only, "OTC CP" only, or "Joint" CP). In the case of a "Joint" CP default, the relative sizes of ETD versus OTC commitment in each commitment tranche will reflect a level commensurate with the contribution of risk (i.e. Initial margin) of each product type.

The current ASX Default waterfall is as follows:

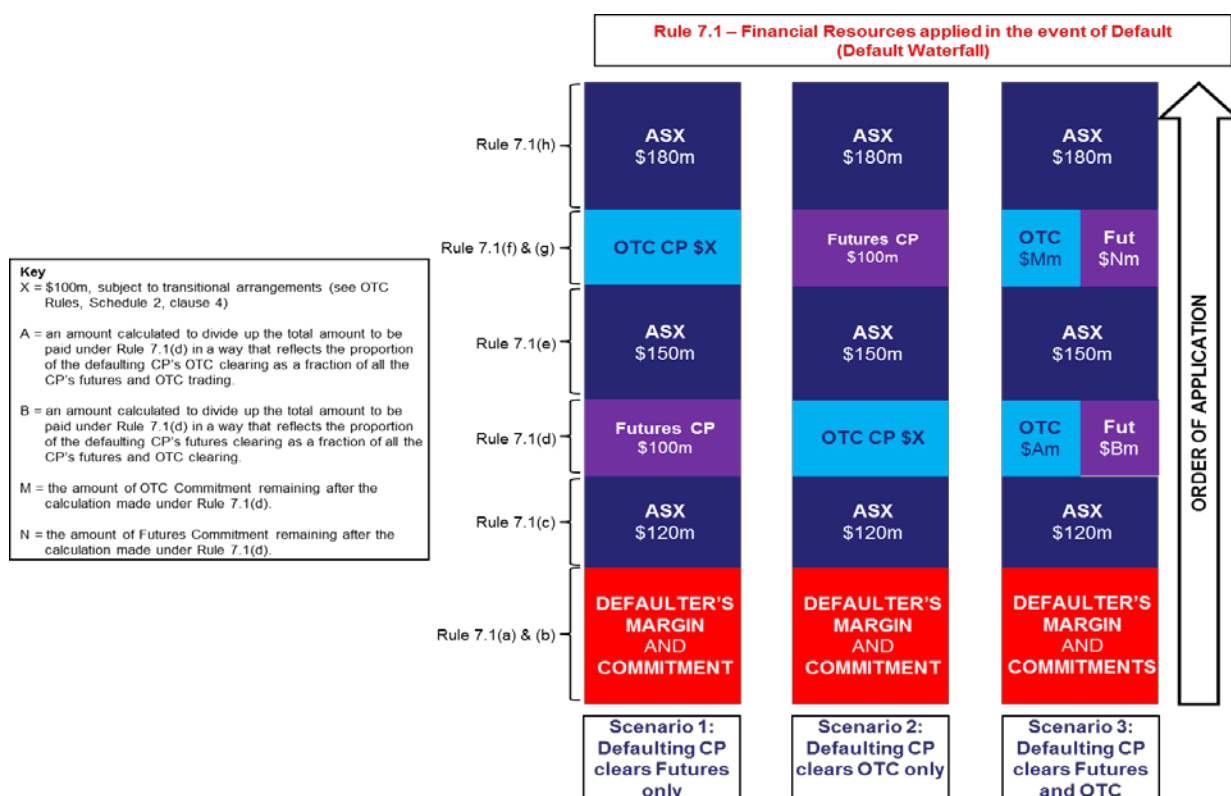


Figure 2 Summary: ASX's Default Waterfall

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The diagram above represents the respective sequence of losses through the waterfall depending on whether the default is OTC only, ETD only or OTC and ETD.

ASX's waterfall is compliant with FSS. Important principles embedded within the ASX Default Waterfall are:

- the CP's potential liability is limited;
- the total size of the OTC default fund layer is based on prudent principles i.e. in extreme, but plausible, market conditions, the default fund must be able to withstand the default of at least the largest two CPs and their affiliates;
- the ranking of the OTC Commitments of non-defaulting OTC CPs according to the level of their default auction bids (juniorisation) will be used as an incentivisation mechanism during the default management process i.e. 'uneconomic' auction bids may result in juniorisation of the OTC Commitments, thereby reducing the risk of such a Commitment.

The OTC CP tranche of the default waterfall is currently no more than A\$100m. ASX intends to ensure that this tranche remains commensurate with the potential risks as the OTC Service evolves over time.

Clients do not directly participate in the Default Waterfall, however CPs are likely to price their clearing offering to include all costs of clearing e.g. default fund contribution/AMS as well as more obvious costs such as margins.

# 11 Reporting

ASX will provide reporting to its CPs and Clients and comply with applicable regulatory reporting requirements. ASX will provide reporting functionality that will enable its CPs and Clients to perform timely and accurate reconciliation across a range of business areas, including trading, risk, funding, settlements and collateral management.

The following reports are available:

No	Report	Mode of Retrieval	Format	CP or Client Distribution?	Intraday Run 1	Intraday Run 2	Ad-Hoc	End of Day	End of Month
1	Cash Flow Projection	ASX Online / OMNet* / SFTP / Email++	csv	CP				x	
2	Price Alignment Interest – Account		csv	CP				x	
3	Price Alignment Interest – Book		csv	CP				x	
4	EOD Cash Flow		csv	CP				x	
5	Intraday Cash Flow		csv	CP	x	x	x		
6	Daily Fees		csv	CP				x	
7	Monthly Fees		csv	CP					x
8	Daily Margin – Account		csv	CP	x	x	x	x	
9	Daily Margin – Book		csv	CP	x	x	x	x	
10	Cross-Margin Offset		csv	CP	x	x	x	x	
11	Cumulative Variation Margin – Account		csv	CP	x	x	x	x	
12	Cumulative Variation Margin – Book		csv	CP	x	x	x	x	
13	Trade – Daily Activity		csv	CP	x	x	x	x	
14	Trade - Cumulative Monthly		csv	CP					x
15	Trade - Open		csv	CP				x	
16	Sensitivity		csv	CP				x	
17	Netting Exceptions		csv	CP				x	
18	Undo Netting Exceptions		csv	CP				x	
Reports 1-18 Estimated Time Available (as of)					9.30 AM	12.30 PM	Ad-Hoc during day	12.15 AM Next Day+	12.15 AM Next Day+
17	Financial Status Advice		csv pdf	CP			x	x	
18	Non-Cash Collateral Statement		pdf	CP				x	
19	Interest Earned Statement		csv pdf	CP				x	
20	OTC Margin and Positions Listings		pdf	CP	x	x	x	x	

Reports 17-20 Estimated Time Available (as of)					9.30 AM	12.30 PM	Ad-Hoc during day	6.30 AM Next Day <sup>+</sup>	12.15 AM Next Day <sup>+</sup>
21	Static Data		csv	CP				x	
22	Client Trade – Open		csv	Client				x	
23	Rate Reset		csv	Client				x	
24	Curve - Discount Factor		csv	Client				x	
25	Curve - Underlying Quotes		csv	Client				x	
26	Curve - Curve Points		csv	Client				x	
27	Curve - Zero Points		csv	Client				x	
28	Curve - Par Rates		csv	Client				x	
29	Client Static Data		csv	Client				x	
Reports 21-29 Estimated Time Available (as of)					9.30 AM	12.30 PM	Ad-Hoc during day	12.15 AM Next Day <sup>+</sup>	12.15 AM Next Day <sup>+</sup>
<b>Notes</b>									
***	Clearing Participant ID – 3 Letter Short Code								
+++	Client ID – 3 Character (Alphanumeric) Short Code								
*	Distribution across OMNet for existing Clear Futures Clearing Participants and Existing Reports only								
+	Next Business Day								
++	OTC Margin & Position Listings Report Only - Distributed by email for Intraday Runs in conjunction with intra-day margin call only – For EOD distributed as per set out frequency and naming convention								

ASX provides these reports (1) at the end of the day (“EOD”), and/ or (2) intraday (as appropriate per report) throughout the entire trade lifecycle, from the moment ASX accepts the trade for clearing through to its maturity. ASX provides its reports in CSV and PDF formats.

There is an additional set of reports that CPs receive when requested to assess the status of a Client to whom they are an alternate CP. These reports are comparable to the DMP reports for House auctions.

ASX's reporting suite is flexible and scalable to permit the addition of new products and asset classes to the service based on demand from participants at a later stage.



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## 12 Fees and Commercial Terms

All fees are charged to the CP. There will be separate fee arrangements between CPs and their Clients. For information on Client Clearing fees and commercial terms, please contact ASX OTC Client Clearing Business Development: Nick Hill ([Nick.Hill@asx.com.au](mailto:Nick.Hill@asx.com.au)) or Christopher Day ([Christopher.Day@asx.com.au](mailto:Christopher.Day@asx.com.au)).

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## 13 Glossary

**Alternate CP** – a secondary CP nominated by a Client to port a Client's positions and associated IM if the Client's primary CP is declared to be in default. It is preferable but not mandatory for alternate CPs to be nominated in advance of a default.

**Approved Trade Source System** – this is currently MarkitWire (see definition below). ASX Clear (Futures) will notify OTC Participants if there are additional Approved Trade Source Systems.

**ASX** - ASX Clear (Futures) Pty Limited

**Backload** – the process by which a trade or a portfolio of trades are loaded into the clearing system from a bilateral state. The standard guideline for a backloaded trade is a trade that was originally executed more than two days prior to submission for clearing.

**Central Counterparty ("CCP")** – an organisation that facilitates trading by providing efficiency and stability to the markets they operate in. The CCP sits between the two CPs for the original parties to the transaction to reduce the credit risk, and performs the clearing and settlement functions of the transaction.

**Clearing Participant ("CP")** - a market participant that joins ASX directly as a 'participant' to clear their own trades and/or those of their clients. In the context of client clearing, a CCP enables its direct CPs to intermediate between itself (the CCP) and the indirect clients (i.e. market participants who are not direct CPs of the clearing service) to facilitate clearing of OTC IRD transactions. The CP must segregate house business and client business and these are referred to as follows in the document:

- CP House account – this is the account through which the CP must clear all its own business.
- CP Client account – this is the account which is used to settle the clearing business of all clients of that CP.

**Client** – indirect participants who do not have direct membership to ASX and who must clear their OTC IRD transactions through CPs (Direct participants). Clients can be standalone or consist of a group of related entities.

**Client Clearing Cross-margining ("X-M") account** – this account records the CP's client clearing eligible ASX 24 ETD positions which are eligible to be cross-margined with OTC IRD and have been selected by the client to be cross-margined with OTC IRD.

**Client Protection Model ("CPM")** – ASX is using the term "Client Protection Model" in preference to "principal model" or "agency model", as neither of these terms encapsulates accurately ASX's Client Clearing Service. The Client Protection Model incorporates features of both the principal and agency models.

The CPM recognises that a CP acts as agent for its Client, giving the Client (as the principal party contracting with ASX) the right, on default of the CP, to communicate with ASX and enforce against ASX directly the Operating Rules relating to segregation and portability of client positions and associated initial margin. CPM renders the CP fully liable to ASX (i.e. as principal) in connection with all open contracts registered on behalf of the Client, so that, except on default of the CP, there will be no change to existing operational processes under which the CP is responsible for position maintenance.

**Cross-Margining** – the concept of allowing trades in instruments in different asset classes (belonging to the same counterparty) to offset each other for the purpose of measuring Initial Margin.

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**Entity** – these are sub accounts of a client. They may be legal entities in their own right or branches/divisions of the Client account.

**Executing Broker (“EB”)** – an executing broker is the party with whom the client executes the transaction and with whom the client affirms the trade on the Approved Trade Source System.

**Excess collateral** - collateral posted in excess of margin liabilities or headroom created against existing collateral through a decline in associated margin liabilities. In the event of the CP default, excess collateral held by ASX will be at risk to losses arising in respect of any Omnibus Account or Individual Client Account of the CP.

**Futures-style Novation** – the process whereby ASX automatically novates new trades when they are submitted for clearing provided that they meet ASX eligibility requirements and provided that each CP has sufficient risk exposure limit available for ASX to continue clearing new trades.

**Guaranteed Initial Margin Value** – the collateral to be ported by ASX in respect of an Omnibus account or Individual Client account on the default of a CP is a cash amount equal to the value of the IM requirement in respect of the Omnibus or Individual Client account at the last time the defaulting CP settled its end of day IM obligations. That amount excludes the value of end of day margin calls not settled by the defaulting CP and intraday margin calls whether settled or not. Where porting of positions in a Client account does not occur, the cash value of the IM net of losses, costs and expenses of close out of positions will be returned to Client with an Individual Client account or the defaulting CP's administrator where the Clients have an Omnibus account.

**Individual Client Account** – where a Client's positions are segregated from those of other Clients and IM is calculated on the basis of the Client's positions exclusively. This allows ASX to port the Client's positions and associated IM in the event of the CP's default. If the Client's positions are not ported, ASX will close out the positions and return the associated IM to the Client directly, less any losses, costs and expenses attributable to closing out the positions. Collateral is not segregated at the Individual Client account level and therefore collateral held by ASX in excess of the initial margin requirement with respect to the Client's positions cannot be ported with the positions and associated IM.

**Initial Margin (“IM”)** – Initial Margin (IM) represents the estimated worst probable forward looking losses in normal market conditions that ASX may incur on the portfolio in the event of a CP default. ASX use a Value at Risk model to quantify risk associated with OTC products using 5 day holding period assumptions.

**Intraday Margin (“ITD”)** – In periods of extreme market volatility, ASX may call its CPs for additional collateral intraday. ASX intends to have a mix of scheduled and ad hoc intraday margin calls throughout the day and based on the level of market volatility relative to existing margin cover.

**MarkitWire** – an electronic trade capture and confirmation platform used for OTC trades. MarkitWire is frequently a major source of trades for OTC Clearing Houses. MarkitWire is currently the only Approved Trade Source System.

**Net Present Value (“NPV”)** – The difference between the present value of cash inflows and cash outflows.

**Omnibus Account** – where all client positions and collateral are held in a single client account of the CP and the ASX calculates IM on the net position in that account. Portability in the event of a CP default with this account structure is only possible if all clients of a defaulting CP port to the same alternate CP.

**Portability** – the transfer of positions and Guaranteed Initial Margin Value of a Client to an alternate CP in the event that their primary CP goes into default.

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**SPAN** – SPAN can be considered as a risk based portfolio approach system for calculating initial margin requirements for ETD. SPAN uses risk arrays, which is a set of numeric values that specify if a particular contract will gain or lose value under different conditions (risk scenarios). The value for every risk scenario symbolises the gain or loss for that contract for a certain combination of volatility change, price (or underlying price) change, and decrease in time to expiration.

**Variation Margin (“VM”)** – Variation Margin (VM) represents the Mark to Market or Net Present Value of the complete OTC Cleared portfolio. It is calculated using ASX's methodology which aligns with standard market practise. ASX construct a yield curve using market data and utilises it to calculate VM. Details of the end of day yield curve are published daily and are available to CPs and clients. VM is calculated on a trade by trade basis and is aggregated at the CP client level and can be either a positive or negative amount depending on the CP and the aggregate of Client VMs.