# NBBO Methodology & Validation of NBBOX trade reports

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## VERSION HISTORY

| Description | Version | Date |
|---|---|---|
| Approved first release | 1.0 | 3 February 2012 |
| Updated to reflect ASIC policy change concerning inclusion of ASX Purematch | 1.1 | 27 February 2012 |

# 1 Introduction

ASIC has promulgated *Market Integrity Rules (Competition in Exchange Markets)* ("**MIRs**"). The MIRs permit participants to, among other things, report off-market trades to an exchange if they meet the exceptions to pre-trade transparency. This includes a category of trade report that can be priced *At or within the Spread*: MIR 4.2.3. These trades must then be promptly reported to an exchange. Chi-X refers to this type of trade report as **NBBO*X***. The relevant spread is the spread of what is described in the MIRs as the National Best Bid and Offer (**NBBO**).

ASIC published a Market Supervision Update on 11 July 2011 that provides guidance concerning ASIC expectations in relation to the NBBO: http://www.asic.gov.au/asic/asic.nsf/byheadline/Markets+FAQs+-+pre-trade+transparency?openDocument.

That guidance makes it clear that market operators are required to validate trade reports that rely on the *At or within the Spread* exception as being within the spread of a NBBO, subject to a small tolerance to allow for timing and other differences between participant and market operator systems.

This document sets out the methodology for Chi-X's NBBO calculation and the way that it validates all **NBBO*X*** trades against the NBBO.

# 2 NBBO Methodology

On Thursday 23 February 2012, ASIC updated its guidance in relation to the calculation of the NBBO for the purpsoes of trade reporting: http://www.asic.gov.au/asic/asic.nsf/byheadline/Markets+FAQs+-+pre-trade+transparency?openDocument#pre-trade

As a result of this guidance, Chi-X's NBBO is calculated based on data sourced from Chi-X and ASX Tradematch.

Chi-X monitors data from applicable venues and determines the highest available bid and lowest available offer in accordance with the sequence that the quotes are received into Chi-X systems. Data is only considered from a venue while it is in a normal trading state. That is, when a security is not the subject of a trading halt or in an auction state or equivalent. The session state that ASX defines as "OPEN" is when normal on-market trading occurs.

To calculate the NBBO, Chi-X creates a consolidated order book across Chi-X and ASX Tradematch to determine the best available bid and offer on a continuous basis. If a venue ceases to be in OPEN state, Chi-X will ignore that venue for the purposes of the NBBO calculation.

For securities that are not quoted on Chi-X for on-market trading, the Chi-X NBBO will be based on quotes from ASX Tradematch only. If at any time Chi-X is open when ASX is not in an OPEN state, or ASX does not have quotes for a symbol, the NBBO will reflect the best bid and offer available on Chi-X.

# 3 Validation of NBBO*X* Trade Reports

To comply with ASIC guidance, Chi-X has introduced validation to check NBBO*X* trade reports against the Chi-X NBBO at time of receipt.

**Price Tolerance**

ASIC acknowledged there is potential for participant systems and NBBO calculations to be out of sync with market operators and that these differences may result in trade reports failing the validation in market operators' systems resulting in a trade rejection. As a result, ASIC permits the validation to be done by market operators with a small tolerance to allow for these potential differences.

ASIC guidance indicated that this price tolerance should not be used as a defacto spread for the purposes of compliance with the MIRs. That is, the tolerance is allowed only for the purposes of Chi-X validation and is not a guaranteed safe harbour of compliance with the ASIC MIR. Therefore, participants need to implement their system on the basis of complying with the pre-trade transparency exceptions in the MIRs (eg at or within the spread), and not on the basis of any tolerance that Chi-X's validation system may have in place.

**Validation Examples:**

- For a standard bid offer spread, trade reports will be accepted at valid price steps or half ticks within a validation range of bid less tolerance and offer plus tolerance;

- If there is a one sided market where only a bid exists, trade reports will be accepted at valid price steps or half ticks within a validation range of bid less tolerance and bid plus tolerance;

- If there is a one sided market where only an offer exists, trade reports will be accepted at valid price steps or half ticks within a validation range of offer less tolerance and offer plus tolerance;

- If the NBBO is locked: bid=offer, trade reports will be accepted at valid price steps or half ticks within a validation range of bid less tolerance and offer plus tolerance;

- If the NBBO is crossed: bid>offer, trade reports will be accepted at valid price steps or half ticks within a validation range of mid-point less tolerance and mid-point plus tolerance.