FREQUENTLY ASKED QUESTIONS

NASDAQ Market Maker Automated Quote Management System

January 4, 2012

1. General

1.1. What rules set forth market maker quotation obligations?

The Securities and Exchange Commission (SEC) issued an [order approving new Exchange and FINRA rules](#) to enhance minimum market maker quotation obligations. For more information, refer to [NASDAQ's approved rule filing](#) or the [SEC's announcement](#) on the approval order.

The effective date was December 6, 2010.

1.2. Does NASDAQ offer systems to help market makers comply with these rules?

To assist firms in meeting their NASDAQ market maker obligations, NASDAQ OMX® developed the Market Maker Automated Quote Management System. The system uses Automated Quote Refresh (AQR) functionality designed to manage quotes so that market makers automatically remain in compliance with NASDAQ exchange rules. Members may manually adjust their quotes to comply with the rule or, if they do not, the system will perform the function for them. In the event of an execution against a system-created compliant quotation, AQR will refresh the quote on the executed side of the market at the applicable Designated Percentage away from the then NBBO (or if no NBBO, the last reported sale).

Beginning January 17, 2012, use of the AQR system by market makers is optional.

1.3. Does NASDAQ's AQR cover non-NASDAQ-listed securities in which firms may be registered with NASDAQ as a market maker?

Yes, the system assists market makers with all Reg NMS securities traded on NASDAQ in which they are registered as a NASDAQ Market Maker.

1.4. Is there a charge related to AQR functionality?

No.

1.5. Can firms opt out of the Market Maker Automated Quote Management System?

Yes. Effective January 17, 2012, NASDAQ will make usage of the AQR functionality voluntary for market makers, subject to filing with the Securities and Exchange Commission (SEC). Firms who wish to continue to utilize the AQR functionality will not need to notify NASDAQ of their intentions.

1.6. How can firms opt out of AQR?

Firms that wish to manage their own compliance with market maker obligations must opt out of AQR by contacting the NASDAQ Trade Desk. Requests should be made in writing and sent to tradedesk@nasdaqomx.com. Upon completion, the NASDAQ Trade Desk will confirm the firm's change in AQR status.

1.7. Will firms be able to opt back into the AQR system if they choose to opt out?

Yes, market makers may opt back into the system by notifying the NASDAQ Trade Desk in writing. Upon completion, the NASDAQ Trade Desk will confirm the firm's change in AQR status.

1.8. What trading protocols will a firm be able to use to manage its market maker obligations if they opt out of the AQR system?

Firms can use any NASDAQ protocol to enter attributable interest that satisfies the market maker obligations. This includes continuing to use the quoting functionality through the QIX protocol. Please note: if a firm chooses to opt out of AQR but use QIX quotes, it must open its quotes every morning and NASDAQ will not provide any additional functionality to help the firm meet its obligations.

2. Market Maker Automated Quote Management System

2.1. What is the difference between a System-Generated Quote and a Firm-Generated Quote?

A. A Firm-Generated Quote is a quote update submitted by a firm, or a quote update based upon its Automated Quote Refresh (AQR) configuration that is compliant with the Market maker requirements.

B. A System-Generated Quote is one in which:
   a. NASDAQ is opening or generating the quote in the absence of firm instruction.
   b. NASDAQ is modifying the quote submitted by the firm or at the firm's instruction via AQR.
   c. NASDAQ has modified a resting quote.

C. NASDAQ will manage System-Generated Quotes on a near-side limit of 4% from the National Best Bid or Offer (NBBO) as described below in addition to managing the Defined Limit away from the NBBO.

2.2. Will firms be able to have one side of their quote system-generated and one side of their quote firm-generated?

Yes, NASDAQ will have the ability to manage one side of the quote only if the other side is already in compliance with the new rules.

2.3. What does the term "9:30X" mean?

9:30X is defined as the time at which the primary market disseminates the first print after the 9:30 a.m., Eastern Time (ET), market open. This is the uniform trigger for the new market maker obligations.

2.4. What order marking does AQR support?

Rule 200(g) of Regulation SHO provides that broker-dealers, including market makers, must mark all sell quotes and orders of any security as "Long", "Short" or "Short Exempt". AQR will now support marking offers Long, Short or Short Exempt based on customer instruction.

2.5. Can auto generated quotes be marked Long, Short or Short Exempt by default?

Yes. In the absence of a QIX instruction to the contrary, AQR will mark offers Long, Short or Short Exempt based on default instructions provided by each market maker. Members can establish a specific default marking for each security in which they are registered as a market maker. Members remain responsible for confirming the accuracy of any default setting.

The default setting for each security can also be changed by the market maker via the QIX protocol.

2.6. How can a market maker change the marking (Long/Short/Short Exempt) of an auto-generated quote?

Market makers can change the marking of an offer by sending a QIX message updating the "Sell Type" for their quote. Once the QIX message has been received, the Sell Type will be adjusted to match the most recent QIX instruction.

Market makers can set the default sell type for auto-generated quotes by sending the "Host Settings" message. The sell type for the current quote can be changed by sending a Quote Update message.

2.7. What are the compliance obligations with market maker requirements when using AQR?

NASDAQ OMX emphasizes that market makers utilizing the AQR system remain obligated to monitor their quotes and are responsible for complying with all NASDAQ OMX exchange rules, as well as Rule 610, Rule 611 of Regulation NMS and Rule 200(g) of Regulation SHO even in the event that AQR is not functioning properly. As is stated above, market makers will now have the option to opt out of AQR and be responsible for managing their own quoting and marking obligations. Market makers must have policies and procedures to address such contingencies and systems in place to ensure that they can continuously meet their two-sided obligation.

Firms are reminded that when the short sale price test restriction is not in effect, they may not mark a short sale order "short exempt" in reliance on Rule 201(c). It would be reasonable for a short sale order to be marked "short exempt" in reliance on Rule 201(d) at times when the short sale price test is not in effect, as long as the firm has a reasonable basis to believe that the order meets the requirements of an exception under Rule 201(d) at that time. NASDAQ is presently reviewing AQR

functionality regarding market makers' compliance requirements with SEC Rule 15c3-5, ("Market Access Rule") and the proposed Limit Up Limit-Down plan.

2.8. How does NASDAQ's Automated Quote system manage quotations to comply with obligations?

The Market Maker Automated Quote Management System has been designed to manage quotes in such a way that market makers automatically remain in compliance with the new rules through System-Generated Quotes. The system functions as outlined below:

Staging Period: 9:28 a.m., Eastern Time (ET) – 9:30X

A. The system will open quotes for each market maker (employing AQR) in each Reg. NMS issue for which they are registered and have not already opened quotes prior to 9:28 a.m.
B. For quotes previously entered or re-priced by the system, or for issues in which no quote has been established:
  a. The system will enter a quote at a percentage away from the NBBO consistent with the requirement of the rule effective time (the time at which the primary market disseminates the first regular way print after the 9:30 a.m. market open).
      i. Tier 1 & 2 securities for purposes of the Single Stock Trading Pause will be priced 20% from NBBO.
          1. Tier 1 & 2 securities include issues in the S&P 500 Index, Russell 1000 Index and select Exchange-Traded Products as announced in NASDAQ Equity Regulatory Alert 2010-11
          2. Tier 3 securities include all other Reg. NMS securities except rights and warrants
      ii. Tier 3 securities priced at or above $1 will be priced 28% away from the NBBO.
      iii. Tier 3 securities priced below $1 will be priced at 30% away from the NBBO
      iv. Rights and Warrants will be priced at 30% away from the NBBO regardless of price.
  b. These quotes may drift 1.5% away from or towards the NBBO before a new quote within the applicable band will be entered.
  c. If there is no NBBO, these quotes will not open until there is a valid NBBO.
C. For unopened quotes entered previously by the market maker and not subsequently updated by the system:
  a. The system will open the quotes as per the market maker instruction.
  b. If there is no NBBO, these quotes will still be opened at market maker's price.

Regular Market Hours: 9:30 a.m. – 4:00 p.m., ET

A. Standard enforcement is effective after 9:30 a.m. and upon the first regular way print by the primary listing market disseminated through the Securities Information Processor (SIP).
B. The NBBO as determined by the exchange for compliance with Reg. NMS is the price from which the references are tested.

C. In the absence of an NBBO, the exchange will use Last Consolidated Sale as the price from which the references are tested.
D. The obligations are not effective during a halt, suspension or pause in trading, and are effective again upon the first print post 'halt' on the primary market.
E. Until the primary market disseminates a regular way print after 9:30 a.m., the system will continue to apply the Staging Period logic.

Regular Market Bookends: 9:30X – 9:45 a.m., ET and 3:35 p.m. – 4:00 p.m., ET

A. The system will enforce the following:
  a. Tier 1 & 2 securities
    i. Initial publish may be no worse than 20% from the NBBO, but may then drift to 21.5% before being republished.
    ii. System-Generated Quotes may drift to within 4% of the NBBO before being republished at 20%.
  b. Tier 3 securities priced at $1 or above
    i. Initial Publish may be no worse than 28% from the NBBO, but may then drift to 29.5% before being republished.
    ii. System-Generated Quotes may drift to within 4% of the NBBO before being republished at 28%.
  c. Tier 3 securities priced below $1
    i. Initial Publish may be no worse than 30% from the NBBO, but may then drift to 31.5% before being republished.
    ii. System-Generated Quotes may drift to within 4% of the NBBO before being republished at 30%.
  d. Rights and Warrants
    i. Initial Publish may be no worse than 30% from the NBBO, but may then drift to 31.5% before being republished.
    ii. System-Generated Quotes may drift to within 4% of the NBBO before being republished at 30%.
  e. System-Generated Quotes which are equal to the NBBO are not adjusted until:
    i. A superior NBBO is available at which time reference will be managed as normal, or;
    ii. Available volume on the quote drops to under one round lot at which time reference will be managed as normal, or;
    iii. The firm submits a quote update.

Regular Market Main Hours: 9:45 a.m. - 3:35 p.m., ET

A. The system will enforce the following:
  a. Tier 1 & 2 securities
    i. Initial Publish may be no worse than 8% from the NBBO, but may then drift to 9.5% before being republished.
    ii. System-Generated Quotes may drift to within 4% of the NBBO before being republished at 8%.
  b. Tier 3 securities priced at $1 and above
    i. Initial Publish may be no worse than 28% from the NBBO, but may then drift to 29.5% before being republished.
    ii. System-Generated Quotes may drift to within 4% of the NBBO before being republished at 28%.
  c. Tier 3 securities priced below $1

> > > i. Initial Publish may be no worse than 30% from the NBBO, but may then drift to 31.5% before being republished.
> > > ii. System-Generated Quotes may drift to within 4% of the NBBO before being republished at 30%.
> > d. Rights and Warrants
> > > i. Initial Publish may be no worse than 30% from the NBBO, but may then drift to 31.5% before being republished.
> > > ii. System-Generated Quotes may drift to within 4% of the NBBO before being republished at 30%.
> > e. System-Generated Quotes which are equal to the NBBO are not adjusted until:
> > > i. A superior NBBO is available at which time reference will be managed as normal, or;
> > > ii. All available volume on the quote is exhausted by execution at which time reference will be managed as normal, or;
> > > iii. The firm submits a quote update.

3. **Opening of Quotations**

   3.1. **What time can firms begin to update their quotes on NASDAQ?**
   Firms can begin to update their quotes at 7:00 a.m., ET, at which time NASDAQ will queue the instruction for the opening of the quotation.

   3.2. **What time can firms begin to open their quotes on NASDAQ?**
   7:00 a.m., ET.

   3.3. **What time does NASDAQ force open previously unopened quotations?**
   NASDAQ will open any unopened quotes at 9:28 a.m., ET.

   3.4. **At what price will NASDAQ publish quotes during the Staging Period?**
   If a firm-directed price is available via quote update or carry over instruction, NASDAQ will force open the quote with the firm's directed price without modification.

   If a firm-directed price is not available, NASDAQ will force open the quote at the Designated Price as described in the Staging Period logic above.

   3.5. **Can firms update their NASDAQ System opened quotes during the Staging Period; after 9:28 but before 9:30X?**
   Yes.

   3.6. **Does NASDAQ enforce Designated Percentage on firm updates to NASDAQ System opened quotes prior to 9:30X?**
   No, Designated Percentage is enforced on firm updates only after 9:30X.

4. **Carryover**

   4.1. **How does NASDAQ handle carryover of quotes from the previous day?**

Firms employing AQR have the choice as to whether their quotes will carryover from the previous day. NASDAQ handles the process as follows:

A. If the firm chooses not to carryover

a. NASDAQ will open all quotes at 9:28 a.m., ET at the designated percentage away from the NBBO, unless the quote has been opened or updated by the firm.
b. At 9:30X, the system will update any quote not in compliance to the designated percentage away from the NBBO.

B. If the firm chooses to carryover

a. If the firm has chosen to carryover its quotes and the quote that was carried over was system-generated for compliance with the new rule (and has not been updated or opened by the firm), the quote will open at the designated percentage away.
b. If the firm has chosen to carryover its quotes and the quote was firm-generated (and has not been updated by the firm), the quote will open at the carryover price with a size of one round lot.
c. If the firm has chosen to carryover its quotes and the quote is system-generated for carryover purposes (i.e. quote was entered on a previous day and was subsequently re-priced by the AQR system, either because it exceeded the designated percentage or because it was moved per client instruction as a result of an execution) the quote will open at the designated percentage away (if not updated by the firm).
d. In all cases if the firm updates its quote before 9:28 a.m., ET, it will be opened as per the update.
e. If the firm opens its quote, it will be open and available for trading at that price from the time it is opened.
f. At 9:30X, the system will update any quote (system or firm-generated) if it is not in compliance to the designated percentage away (outer band) from the NBBO.

4.2 How can firms find out what their firm-wide carryover instructions are?

Please contact the NASDAQ OMX Trade Desk at tradedesk@nasdaqomx.com or +1 212 231 5100 and we will send your firm the current carryover settings.

5. How do AQR (automated quote refresh) settings work?

AQR (automated quote refresh) settings are available for firms to use if they choose to do so. NASDAQ will move a market maker's quote after an execution as per their AQR instruction on a particular security until such time as the quote would be out of compliance with the rule. If a market maker would rather have its quote immediately move to the required threshold after an execution on a firm-generated quote they should opt to not use AQR settings.

6. **Does the Automated Quote Management System take into account a firm's attributable orders when deciding if it needs to update the firm's quote?**

   No, attributable orders are separate and distinct from quotes for the purposes of the automated system. Therefore, the system will always publish a quotation on behalf of the market maker, regardless of whether they have an attributable order at a compliant price.

7. **What happens to a firm's quote if the firm updates its quote to a price inferior to the designated band percentage?**

   The system will cancel the existing quote, republish at the current reset percentage and will echo back the resulting price on the firm's QIX connection.

8. **What happens to firms' quotes at 3:35 p.m., ET, when the quote thresholds are relaxed?**

   NASDAQ will not re-publish quotations to the relaxed bands unless the quote is executed or drifts to closer than 4% from the NBBO. Firms may relax their quotes to the wider thresholds on their own volition if they so choose.

9. **What does NASDAQ do with a firm's system-generated quote if the market in the security is crossed?**

   In order to avoid multiple executions at the same price level, NASDAQ flips the NBBO during a crossed market and moves system-generated bids to the applicable percentage away from NBO and move alls system-generated offers to the applicable percentage way from the NBB. Firm-generated quotes would continue to execute based on the market maker's quote instruction and its AQR (auto-quote refresh) settings.

10. **What happens to a firm's system-generated quote if the market is halted or paused in a security?**

    All system-generated quotes would be immediately cancelled upon the security being halted or paused. Any firm-generated quotes, including one-sided quotes, would remain, unless updated by the firm. After the first regular-way print on the primary listing market coming out of the halt, all system-generated quotes would be placed at the applicable percentage away from the NBBO.

11. **What happens to a firm's system-generated quote during an IPO?**

    After the first regular-way print on the primary listing market, quotes would be placed at the applicable percentage away from the NBBO. Firms may enter their own quote prior to the opening of the security and that quote will only be updated upon the first print if it is outside the applicable bands.

12. **What can firms do to ensure that they receive information about an execution that is a result of a system-generated quotation?**

    Firms have multiple options to ensure that they receive information about executions that are a result of a system-generated quotation. For firms that use QIX, they should ensure that they refresh quotes for each stock in which they are registered. This will ensure that all quotes are properly associated with the firm's QIX connection of choice.

For firms that do not use QIX or want added redundancy, a drop copy session can be set up or drops can be added to existing session to ensure that all executions are received.

13. How do firms receive executions against system-generated quotes?

Firms that use QIX receive executions on system-generated quotes in the exact same manner they do today, with a 0811 message coming back on their UM port. Firms that wish to receive drop copies need to request a drop of all executions that take place for their firm across FIX port $AQR01.