Clearly Erroneous Trade Policy for Open Trading Transactions on the MarketAxess System[1]

MarketAxess Corporation ("MarketAxess") offers trading protocols in which MarketAxess is interposed as the trading counterparty on a matched principal basis between the two relevant participants (or their principals, as applicable, collectively referred to hereafter as "Participants") who have agreed to the parameters of the transaction in order to broaden the pool of potential trading parties available on the MarketAxess System (referred to as "Open Trading"). In order for MarketAxess to provide a level of protection for Participants, maintain a fair and orderly market and enable MarketAxess to manage the risks attendant in acting as a matched principal counterparty on the MarketAxess System (the "System"), MarketAxess will use this Clearly Erroneous Trade Policy ("Policy") to address trade errors and disputes involving or arising from Open Trading protocols. MarketAxess only acts as counterparty in order to facilitate Open Trading and MarketAxess makes Open Trading protocols available solely on the condition that each Participant has agreed to abide by MarketAxess' determinations under this Policy.

BY USING ANY OF MARKETAXESS' OPEN TRADING PROTOCOLS IN WHICH MARKETAXESS (OR ITS DESIGNEE) IS A COUNTERPARTY TO A TRADE, EACH MARKETAXESS PARTICIPANT AGREES TO BE BOUND BY, AND COMPLY WITH, THIS POLICY. IF YOU DO NOT AGREE TO BE BOUND BY, AND COMPLY WITH, THIS POLICY, DO NOT USE ANY OPEN TRADING PROTOCOLS OR FUNCTIONALITY. THIS POLICY IS SUPPLEMENTAL TO, AND DOES NOT SUPERCEDE, THE APPLICABLE USER OR DEALER AGREEMENT ENTERED INTO BY EACH PARTICIPANT WITH MARKETAXESS.

1. Policy and Definitions

If MarketAxess determines, in its sole discretion, that an Open Trading transaction is a Clearly Erroneous Trade (as defined below) or is impacted by a System Disruption or Malfunction (as defined below), MarketAxess may either (i) cancel the trade or (ii) modify the terms of the trade, *provided* that any such modification shall be subject to consent by the Participants that are parties to the applicable Open Trading transaction and, if such agreement is not reached, MarketAxess may cancel the trade. In addition, in the event of a Catastrophic Error (as defined below), MarketAxess shall have the right to (i) initiate a review of any Open Trading transaction, and (ii) determine that all Open Trading transactions impacted by the Catastrophic Error shall be cancelled.

A "Clearly Erroneous Trade" is defined as a trade that MarketAxess determines, in its sole discretion:

(i) to have been executed at a pricing level (e.g., price, spread, yield, discount margin or other applicable pricing convention) that is clearly inconsistent with the current or expected market for that security at the time of execution;[2]

[1] This Clearly Erroneous Trade Policy applies only to clients for whom MarketAxess Corporation (or its designee) acts as the Open Trading intermediary, including clients contracted with MarketAxess Corporation, MarketAxess Canada Company, and MarketAxess Plataforma de Negociação Ltda. The clearly erroneous trade policies for participants of MarketAxess' UK MTF, European MTF and Singapore RMO are located in Appendix 1 to each of their rulebooks, which are located in the Legal and Regulatory Center of www.marketaxess.com.

[2] If the market for a security at the time of execution of the trade is too volatile or illiquid for MarketAxess to discern the then-current or expected market level of the security, MarketAxess reserves the right, in its sole discretion, to determine that the trade cannot be deemed to be a Clearly Erroneous Trade and thus should not be canceled. Although the MarketAxess system may provide a pre-trade warning that the market for a security is, or recently has been, volatile, the

(ii) to have been executed on any term (e.g., identification of the security, side, size, benchmark, trading with or without accrued interest) that is inconsistent with prevailing market practice or that MarketAxess believes would have reasonably appeared to the contra-Open Trading participant to have been entered or calculated in error under the given circumstance;

(iii) has been rejected by the relevant clearinghouse or MarketAxess' designated third-party clearing firm or is otherwise incapable of normal settlement and clearing by the relevant clearinghouse, MarketAxess or MarketAxess' designated third-party clearing firm (e.g., for reasons, including but not limited to below minimum size, and/or that the instrument or the counterparty is subject to government sanctions), including the leg involving the contra-Open Trading participant; or

(iv) would be detrimental to market integrity or inconsistent with just and equitable principles of trade.

A "System Disruption or Malfunction" is defined as:

(i) any disruption, malfunction or technical failure in the System, including any electronic communications, which MarketAxess determines, in its sole discretion, results in the System, or any part of the System, not operating as intended by MarketAxess or a trading instruction being incorrectly processed by the System;

(ii) the incorporation into, or use by, the System of any incorrect calculation, reference price (including, without limitation, CP+) or reference data that MarketAxess determines, in its sole discretion, to be incorrect, stale or otherwise erroneous;

(iii) in relation to any automated trading protocols, the failure, as determined by MarketAxess in its sole discretion, of the System to correctly apply the trading criteria, defaults or settings entered by the Participant; or

(iv) for instruments trading on a spread to treasury basis, the failure, as determined by MarketAxess in its sole discretion, of the System to use the benchmark treasury accepted by the bond market as the convention for such instrument or the failure of the System to use current prices of such benchmark treasury during the spotting process.

2. <u>Live Markets</u>

(i) <u>Bid-Ask Tolerance Range</u>: The Live Markets[3] protocol incorporates price controls designed to prevent the entry or maintenance of orders that are outside of MarketAxess' bid-ask tolerance range[4]. Accordingly, any trades executed via the Live Markets protocol will be presumed to be at a pricing level that is consistent with the current or expected market for that security at the time of execution. Trades executed via Live Markets will only be found to be Clearly Erroneous pursuant to clause (i) of the definition of a "Clearly Erroneous Trade" in the event that MarketAxess determines, in its sole discretion, that one of the following circumstances occurred and, as a result, the trade was executed at a pricing level that was

absence of such a warning does not mean that MarketAxess will be able to discern the then-current or expected market level of the security in the event of a trade review.

[3] Live Markets is an Open Trading functionality that enables Participants to utilize an order book-based trading protocol to anonymously submit live and subject bids, offers and limit orders. Live Markets is registered as an Alternative Trading System with the Securities and Exchange Commission.

[4] The bid-ask tolerance range is based on MarketAxess' CP+ algorithmic pricing tool. The CP+ price range will vary by bond and side (bid/ask) and will be updated every 15 seconds.

clearly inconsistent with the current or expected market for that security at the time of execution:

- The Live Markets bid-ask tolerance range was either not available for the instrument at issue, failed to update in the normal course or was otherwise erroneously calculated; or
- Material news impacting the pricing level of the instrument had been released within 15 minutes prior to the time of execution and the Live Markets bid-ask tolerance range did not update to reflect the post-news tolerance range, if different than the pre-news tolerance range.[5]

In order to request a trade review of a Live Markets trade on the basis that it was clearly erroneous, a Participant must follow the procedures set forth in Section 6 (Request for Review) within fifteen (15) minutes of the execution of the trade.

(ii) Fill Limit Control: The Live Markets protocol incorporates functionality that allows designated market makers who have contractually agreed to provide live markets in a broad range of bonds to manage their risk by limiting the number of fills above a designated threshold of volume within a rolling window of time (the "Fill Limit Control"). If a market maker's pre-determined threshold is reached, the System will block further executions and any remaining resting orders by such market maker will be cancelled until the market maker resets the Fill Limit Control. In the event of a System Disruption or Malfunction that impacts the proper operation of a Fill Limit Control, MarketAxess shall have the right to determine that all trades in excess of the market maker's designated volume threshold shall be cancelled in accordance with Section 8 (Determinations), even if such trades are not otherwise Clearly Erroneous Trades.

3. Treasuries

(i) Notwithstanding anything to the contrary set forth herein, MarketAxess will not cancel any Open Trading transaction involving U.S. Treasuries if MarketAxess determines, in its sole discretion, that (i) the instrument has traded on the System at least ten (10) times in the two hours prior to the execution time of the trade at issue and (ii) the execution price of the trade at issue is within the "No Action Range" set forth below for the relevant instrument, as determined by MarketAxess in its sole discretion.

[5] In determining whether material news has been released under this Policy, MarketAxess will consider news disseminated by generally recognized national new sources or wire services which are reasonably designed to provide broad, non-exclusionary distribution of the information to the public (e.g. EDGAR, Dow Jones, Bloomberg, PR Newswire). Participants that wish to have MarketAxess consider news disseminated by other sources in local jurisdictions will be responsible for identifying these sources and providing the relevant information to MarketAxess.

Instrument	No Action Range
T-Bills	5 Basis Points
2 Year	2/32nds
3 Year	2/32nds
5 Year	3/32nds
7 Year	3/32nds
10 Year	4/32nds
20 Year	6/32nds
30 Year	6/32nds

(ii) The No Action Range shall be measured from the average execution price of the last ten trades for such instruments that were executed on the System prior to the execution time of the trade at issue.

(iii) In the event that the criteria set forth in Section 3(i) above has not been met, then MarketAxess shall review Open Trading transactions involving U.S. Treasuries in accordance with the terms and conditions of this Policy.

4. Corporate Actions

MarketAxess may deactivate a bond from Open Trading that is the subject of a corporate action (e.g., tender or exchange offer, call, partial call) until the action is complete or the details of the corporate action have been broadly disseminated. Participants should be aware that, in the event that MarketAxess does not deactivate the bond prior to the execution of a trade, MarketAxess may cancel the trade if MarketAxess determines, in its sole discretion, that (i) such trade is a Clearly Erroneous Trade (as defined above), (ii) the pendency of the corporate action creates any risk of loss to MarketAxess or (iii) the Participant that is the buyer in the transaction would be negatively impacted by the timing of the corporate action in relation to the time of execution of the trade (e.g., partial call has reduced position). If a Participant's failure to settle a trade in a timely manner in relation to a bond that is subject to a corporate action negatively impacts the contra-Open Trading participant's ability to participate in the corporate action, such failing Participant shall be liable for any losses, costs or expenses that MarketAxess or the contra-Open Trading participant incurs as a result of such Participant's settlement failure.

5. Catastrophic Errors

In the event of a Catastrophic Error, MarketAxess shall have the right to (i) initiate a review of any Open Trading transaction regardless of whether a party to the transaction has timely requested a review and (ii) determine that all Open Trading transactions impacted by the Catastrophic Error, as determined by MarketAxess in its sole discretion, shall be cancelled in accordance with Section 8 (Determinations). A "Catastrophic Error" will be deemed to have occurred when (i) the transactions of 4 or more Participants or 10 or more transactions are impacted by a System Disruption or Malfunction, even if such trades are not otherwise Clearly Erroneous Trades or (ii) the actions of a single Participant causes, or is involved in, 10 or more Clearly Erroneous Trades.

6. Request for Review

Review of any trade may be initiated by a Participant that is a party to the applicable Open Trading transaction pursuant to Section 7 (Review Process) below or by MarketAxess. MarketAxess reserves the right to initiate a review of a trade prior to trade settlement, regardless of whether a party to the trade has requested a review, if MarketAxess determines, in its sole discretion, that circumstances warrant such a review.

In all circumstances, the trade will remain an obligation of the Participants that are the parties to the Open Trading transaction and subject to any agreements between MarketAxess and such Participants until MarketAxess notifies such Participants by e-mail that the trade has been adjusted or cancelled pursuant to this Policy.

7. Review Process

To request a trade review, a Participant that is a party to the applicable Open Trading transaction must notify MarketAxess by telephone at 212-813-6262, via email to tradingdesk@marketaxess.com, or directly via Bloomberg message to a member of MarketAxess' Open Trading desk. If the request is sent via Bloomberg message, it shall not be considered to be received unless and until MarketAxess responds to the message acknowledging receipt. Trade review requests received within (i) fifteen (15) minutes of the execution of the trade for Live Markets and Treasuries trades and (ii) thirty (30) minutes of the execution of the trade for all other Open Trading transactions will be automatically reviewed by MarketAxess and trade review requests received outside of these windows will be reviewed at the discretion of MarketAxess. Review requests must include the following information:

- Trade ID (s)
- Issuer Name and CUSIP/ISIN
- Number of bonds
- Spread/Price(s)
- Side (bought or sold)
- Factual basis for believing that the execution is either a Clearly Erroneous Trade or the result of a System Disruption or Malfunction

In determining whether a trade is either a Clearly Erroneous Trade or impacted by a System Disruption or Malfunction, MarketAxess will utilize any information, and consult with any relevant parties, that in its sole discretion it deems adequate or appropriate, including, without limitation, the factors set forth below. For the avoidance of doubt, no single factor, in and of itself, will be determinative of whether a trade is either a Clearly Erroneous Trade or impacted by a System Disruption or Malfunction.

- Trades on the System or publicly reported trades which occurred prior to and following the alleged error trade;
- Indicative pricing available on the System or sourced from third parties;
- Outgoing calls to independent third-party participants on the System to determine the expected level for the security traded at the time in question;
- MarketAxess' in-house market knowledge and expertise;
- Whether the Participant requesting the review is the liquidity provider or the liquidity taker;

- Whether any material news had been disseminated by or about the particular security or the issuer of the security prior to the time of execution, as well as the timing of such news dissemination[6]; and
- The promptness of the trade review request.

Any electronic or other communications involving the terms of a trade will also be a significant consideration in determining whether such trade is considered a Clearly Erroneous Trade or impacted by a System Disruption or Malfunction.

8. Determinations

Each trade review request will be considered on a case-by-case basis by an authorized principal of MarketAxess. In the event that a party properly requests a trade review or if MarketAxess initiates a trade review, MarketAxess will promptly notify the trading desk or trade support operations of the other party to the trade by phone or electronic communication. MarketAxess will use its commercially reasonable efforts to resolve any trade review within four business hours of the time that the trade review is commenced. MarketAxess will notify the involved parties of any final determination by an electronic communication. All decisions by MarketAxess pursuant to this Policy are final and not subject to further review or appeal. The party requesting a trade review may withdraw its request by telephone at 212-813-6262 or via email to tradingdesk@marketaxess.com at any time prior to the time MarketAxess notifies the parties to the transaction of its final determination.

Upon the communication by MarketAxess of any final determination of a trade review, each Participant shall promptly implement the determination. If the final determination by MarketAxess is that an Open Trading transaction shall be cancelled, MarketAxess and each affected Participant shall cancel all trade legs associated with the Open Trading transaction at issue (including any back-to-back transactions) and amend any previously submitted transaction reports, as applicable, in accordance with market convention (unless both Participants have agreed to modify the terms of the trade in accordance with Section 1 (Policy and Definitions) of this Policy). If the final determination by MarketAxess is that an Open Trading transaction shall stand, the relevant Participants shall take such steps as may be necessary to settle such transaction in accordance with market convention.

Notwithstanding anything to the contrary herein, a trade may not be canceled or modified under this Policy after the earlier of: (x) the time that either leg of the Open Trading transaction at issue is accepted for clearing by the relevant clearinghouse; or (v) the time that the trade has settled.

9. Voluntary Accommodations

In the event that a trade is not eligible for review under this Policy (e.g., due to a review request being initiated later than the applicable deadline after the trade), a Participant to such trade may request that MarketAxess attempt to reach a mutually agreed upon trade adjustment, cancellation or reversal with the contra-Open Trading participant, although MarketAxess will be under no obligation to do so. In such instance, MarketAxess solely facilitates such requests by contacting the counterparty for assent to voluntarily adjust, cancel or

[6] The dissemination of news, material or otherwise, about the security or the issuer of the security, prior to the time of execution is not, in and of itself, sufficient to trigger a trade cancellation unless MarketAxess also determines, in its sole discretion, that the trade was executed at a pricing level (e.g., price, spread, yield, discount margin or other applicable pricing convention) that is clearly inconsistent with the current or expected market for that security at the time of execution.

reverse the subject transaction; however, MarketAxess will not have any discretion over the actions of counterparties in this regard.

10. Participant Responsibilities

Participants are responsible for ensuring the accuracy and completeness of all information transmitted to the System. Accordingly:

- Traders should inspect each order, request for quote ("RFQ") and/or response to a RFQ prior to submitting it to the MarketAxess platform;
- Traders should use available software warnings and protections;
- Traders should review trade details promptly after execution; and
- An assertion that a Participant made a mistake in entering an order, RFQ or a quote, or that a Participant failed to pay attention or update a quote, may not be sufficient for MarketAxess to determine that a trade is considered a Clearly Erroneous Trade.

No price adjustment or cancellation can be assured or guaranteed, and a trade will stand unless and until MarketAxess notifies the Participants by e-mail that the trade has been adjusted or cancelled.

11. Refusal to Abide by MarketAxess Determinations; Disputes

Use of any of MarketAxess' Open Trading protocols constitutes acceptance of MarketAxess' right to cancel or adjust any trade as described in this Policy, including trades in which a designee of MarketAxess pre-approved by the Participant has acted as matched principal for the applicable trade. MarketAxess shall not be liable for losses or damages arising as a result of MarketAxess' action or inaction pursuant to this Policy. Each Participant shall reimburse MarketAxess for any losses, costs or expenses MarketAxess incurs as a result of such Participant's failure to abide by MarketAxess' determinations under this Policy.

12. Amendments to the Policy

MarketAxess may amend, modify, supplement, or replace this Policy upon notice to Participants, without Participants' explicit affirmative consent, upon 30 days' advance notice of the effective date of the amendment, modification, supplement, or replacement of the Policy. Such notice may be made by letter, e-mail or notice on the MarketAxess Website describing the relevant changes.