

March 8, 2017  
MR-17-04

**CHICAGO STOCK EXCHANGE, INC.  
MARKET REGULATION DEPARTMENT  
INFORMATION MEMORANDUM**

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**RE: Consolidated Audit Trail (“CAT”) Clock Synchronization Requirements**

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**Executive Summary**

On November 15, 2016, the Securities and Exchange Commission (“SEC”) approved the National Market Plan Governing the Consolidated Audit Trail (the “CAT NMS Plan” or the “Plan”). Pursuant to the CAT NMS Plan, each national securities exchange, including the Chicago Stock Exchange, Inc., and the Financial Industry Regulatory Authority, Inc. (“FINRA”) (each, a “Participant” in the Plan) has filed with the SEC a compliance rule series that requires the Participant’s members to comply with the CAT NMS Plan requirements and, ultimately, to report information to the CAT. The Participants are issuing this alert in anticipation of the SEC’s approval of the Participants’ compliance rule series.

This alert provides guidance regarding upcoming deadlines regarding clock synchronization requirements, including certifications that apply to certain members of the Participants.

**Business Clock Synchronization Requirement**

The Participants filed their CAT compliance rule series with the SEC in January and February 2017. Pursuant to the clock synchronization provisions in the CAT compliance rule series, each Participant’s member (“Industry Member”) shall synchronize its Business Clocks, other than such Business Clocks used solely for Manual Order Events or used solely for the time of allocation on Allocation Reports, at a minimum to within a fifty (50) millisecond tolerance of the time maintained by the atomic clock of the National Institute of Standards and Technology (“NIST”), and maintain such synchronization.<sup>1</sup> In addition, each Industry Member shall synchronize its: (A) Business Clocks used solely for Manual Order Events; and (B) its Business Clocks used solely for the time of allocation on Allocation Reports, at a minimum to within a one second tolerance of the time maintained by NIST, and maintain such synchronization. Under the Plan, as modified by an exemptive order issued by the SEC, each Industry Member must comply with these requirements with regard to Business Clocks that capture time in milliseconds by or before March 15, 2017.

For purposes of the initial March 15, 2017 clock synchronization and certification (described below) deadlines, “Business Clocks” include those clocks that currently capture time in

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<sup>1</sup> Unless otherwise noted, capitalized terms are used as defined in the CAT compliance rule series or herein.

milliseconds and that are used to record time related to “Reportable Events,” as defined under the Plan, including, without limitation, the original receipt or origination, modification, cancellation, routing, execution (in whole or in part) and allocation of an order, and receipt of a routed order, in Eligible Securities (i.e., NMS Securities and OTC Equity Securities).

Accordingly, if your Business Clocks currently capture time in milliseconds, you must comply with the clock synchronization, documentation and certification requirements set forth in the compliance rule series, and summarized herein, by or before March 15, 2017. However, as noted below, Industry Members will not be required to comply with the violation reporting provision of the clock synchronization requirements until thresholds for reporting are published by the Operating Committee of the CAT NMS Plan.

### **Synchronization Procedures**

All Industry Members that have Business Clocks that are subject to the clock synchronization requirements must document and maintain their synchronization procedures and keep a log of the times when they synchronize their Business Clocks and the results of the synchronization process. The Participants expect that each Industry Member will synchronize its Business Clocks every business day before market open, and check synchronization at pre-determined intervals throughout the business day, to reasonably ensure that Business Clocks maintain synchronization. The Participants also expect that each Industry Member’s synchronization log will document whenever a Business Clock fails to be within the applicable tolerance of the time maintained by NIST. At a later date, the Operating Committee of the CAT NMS Plan will provide further guidance regarding clock synchronization thresholds and Industry Members’ clock synchronization logs. At that time, the Participants will publish this information.

### **Certification Regarding Business Clock Synchronization**

The CAT compliance rule series requires each Industry Member to certify that its Business Clocks satisfy the synchronization requirements described above periodically in accordance with the certification schedule established by the Operating Committee of the CAT NMS Plan. As mentioned above, each Industry Member must provide an initial certification – in the form attached hereto – by March 15, 2017. Going forward, Industry Members must complete a new certification annually by March 15 of each year following 2017. For future certifications, Industry Members should use a copy of the form certification attached hereto (see Exhibit 1), unless an updated form certification is available, in which case the Participants will distribute copies of such updated form certification prior to the March 15 deadline. Industry Members are not required to submit such certifications to the exchanges or FINRA. Instead, originals of such certifications must be maintained by Industry Members as part of their books and records and be available to regulators upon request. Industry Members who are members of multiple Participants need only make a single clock synchronization certification.

### **Violation Reporting**

Each Participant’s compliance rule series provides that each Industry Member with Business Clocks must report to the Plan Processor and the Participant when the Industry Member violates the clock synchronization requirements pursuant to the thresholds set by the Operating

Committee of the CAT NMS Plan (the “Compliance Thresholds”). At this time, the Operating Committee has not adopted Compliance Thresholds, so Industry members are not yet required to report violations of the clock synchronization requirements to the Plan Processor or the Participants. At a later date, the Participants will publish the Compliance Thresholds, subject to approval by the Operating Committee of the CAT NMS Plan. At that time, Industry Members will be required to report violations of the Compliance Thresholds to the Plan Processor and the Participants.

For any regulatory questions concerning this Notice, please contact the undersigned at (312) 663-2402 or [psantori@chx.com](mailto:psantori@chx.com).

Peter D. Santori  
Executive Vice President and  
Chief Regulatory Officer

**CONSOLIDATED AUDIT TRAIL (“CAT”)  
CLOCK SYNCHRONIZATION CERTIFICATION  
BY  
[INDUSTRY MEMBER]  
TO  
PARTICIPANTS OF THE CAT NMS PLAN**

**MARCH \_\_\_\_, 2017**

[Industry Member] hereby acknowledges that it is a member of the following national securities exchange(s) and/or national securities association(s) (please select all that apply):

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|--|---|---|
| <input type="checkbox"/> Bats BYX Exchange, Inc.                         | <input type="checkbox"/> Financial Industry<br>Regulatory Authority, Inc. | <input type="checkbox"/> NASDAQ PHLX LLC                  |
| <input type="checkbox"/> Bats BZX Exchange, Inc.                         | <input type="checkbox"/> International Securities<br>Exchange, LLC        | <input type="checkbox"/> The NASDAQ Stock<br>Market LLC   |
| <input type="checkbox"/> Bats EDGA Exchange,<br>Inc.                     | <input type="checkbox"/> Investors’ Exchange LLC                          | <input type="checkbox"/> National Stock Exchange,<br>Inc. |
| <input type="checkbox"/> Bats EDGX Exchange,<br>Inc.                     | <input type="checkbox"/> ISE Gemini, LLC                                  | <input type="checkbox"/> New York Stock<br>Exchange LLC   |
| <input type="checkbox"/> BOX Options Exchange<br>LLC                     | <input type="checkbox"/> ISE Mercury, LLC                                 | <input type="checkbox"/> NYSE MKT LLC                     |
| <input type="checkbox"/> C2 Options Exchange,<br>Incorporated            | <input type="checkbox"/> Miami International<br>Securities Exchange LLC   | <input type="checkbox"/> NYSE Arca, Inc.                  |
| <input type="checkbox"/> Chicago Board Options<br>Exchange, Incorporated | <input type="checkbox"/> MIAX PEARL, LLC                                  | <input type="checkbox"/> Other:<br>_____                  |
| <input type="checkbox"/> Chicago Stock Exchange,<br>Inc.                 | <input type="checkbox"/> NASDAQ BX, Inc.                                  |   |

To achieve compliance with the clock synchronization requirements of the CAT compliance rule, including any interpretive or exemptive guidance applicable to such rule, of each national securities exchange and/or national securities association identified above (the “Clock Synchronization Requirement”), the undersigned, who is duly authorized to execute this certification on behalf of [Industry Member], hereby certifies that [Industry Member] has:

- (1) synchronized its Business Clocks, other than such Business Clocks used solely for Manual Order Events or used solely for the time of allocation on Allocation Reports, at a minimum to within a fifty (50) millisecond tolerance of the time maintained

by the National Institute of Standards and Technology, and maintains such synchronization; and

(2) synchronized (A) its Business Clocks used solely for Manual Order Events and (B) its Business Clocks used solely for the time of allocation on Allocation Reports at a minimum to within a one second tolerance of the time maintained by the National Institute of Standards and Technology, and maintains such synchronization.

Capitalized terms are defined as set forth in the CAT compliance rule series of each national securities exchange and national securities association.

EXECUTED as of the date first written above.

**[INDUSTRY MEMBER]**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_