TO: ALL CLEARING MEMBERS

DATE: MARCH 2, 2018

SUBJECT: 2018 Business Continuity/Disaster Recovery Industry Test Strategy

Test Overview

Securities Industry and Financial Markets Association (SIFMA) leads and OCC participates in an annual industry-wide business continuity test to exercise and verify the ability of firms, markets and utilities to operate through an emergency using backup sites, recovery facilities and backup communication capabilities across the industry. This test is a validation of market connectivity and interactive processing but is not a full test of internal systems of firms, exchanges and market utilities.

This industry test allows OCC participants (members and exchanges) to connect to the OCC’s DR environment and execute trade and post trade clearing transactions.

Is participation mandatory or optional?
Members mandated for participation in the 2018 test were formally notified in November 2017. Test participation is required for mandated members. Participation is optional (although highly encouraged) for non-mandated members.

Firms unsure of their mandate status should contact their OCC Clearing Member Representative.

Is Connectivity Pre-Testing Required? If so, what are the connectivity pre-test dates?
Yes, connectivity testing is required for the connections that will be leveraged on the actual BC/DR test date. Failure to participate in connectivity pre-testing may result in adverse impacts to a firm’s BC/DR test effort.

Connectivity Pre-Testing dates are provided below:
Saturday, July 14, 2018
Saturday, August 11, 2018
Saturday, September 8, 2018

When will the test take place?
Industry-wide BC/DR Test, Saturday October 13, 2018

Is Registration Required?
In a change from previous years, all participants that are mandated to participate will be automatically registered with OCC and don’t need to register separately.

All non-mandated participants are required to register directly with OCC. Participants can register by accessing the following link and submitting a test request.

OCC BC/DR Registration Link
What OCC applications are involved in the test?
The Encore application will be available for testing supporting on-line, batch, and real-time processing.

Who do I contact for further information?
Please contact the following for further information:

- occDRtest@theocc.com
- Karen Glad, VP Business Operation
  - kglad@theocc.com
  - 312-322-2041
- Your OCC Clearing Member Representative

Test Scope

What does the test entail for OCC Members & Exchanges?

Exchanges will:
- Transmit matched trades to OCC for processing throughout the mock trading cycle
- Balance trades with OCC once the market has closed
- Receive and verify outbound DDS through connections to OCC’s DR environment

Firms will:
- Submit post trade transactions to OCC utilizing the communication protocols normally used in production (External Encore, Real-time, Batch SFTP or Batch NDM)
- Receive and verify outbound DDS through connections to OCC’s DR Environments
- Access On-demand and Core reports through External Encore

Test Format and Script

What are the expectations for Exchanges?
- Submit matched trades to OCC throughout the Mock Trading Cycle
- Submit balance sets and balance trades with OCC
- Submit batch trade backup file
- Receive Real-time DDS (pended/rejected trades) if applicable
- Receive Options Regulatory Surveillance Authority file (ORSA)
- Exchange will purge all test data from systems prior to Monday market open

What are the expectations for the participating firms?
- Submit a representative sampling of post trade transactions that are normally executed on a daily basis (i.e. Transfers, Adjustments, Exercise, etc.) utilizing all of the firms communication protocols – MQ, NDM, SFTP, Online via External Encore
- Post trade transactions should cover the following:
  - Approved product types for the firm (equity, index, etc.)
  - Weekly, near-term, and long-term expirations
- Receive and verify outbound DDS utilizing all of the firms communication protocols
- Firms will purge all test data from systems prior to Monday market open
Is there a test script or test symbols?
- There are **no test scripts** for participation with OCC other than the expectations identified above.
- OCC will work with each testing party to develop an agreed upon testing strategy that meets the needs of the test and covers the testing parties' expectations.
- OCC will support production products and series for the test.
- Support of **Test Symbols** is currently under discussion with the SIFMA Industry Testing working group. OCC plans on supporting the decisions of the working group.

What is the testing window on the test day?
The testing window will run from 8:30 a.m. ET to 6:00 p.m. ET.

<table>
<thead>
<tr>
<th>Business/Trade Date</th>
<th>Time (ET)</th>
<th>Activity</th>
<th>Inputs/Outputs</th>
<th>Description</th>
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<tbody>
<tr>
<td></td>
<td>8:30 a.m. – 9:15 a.m.</td>
<td>Pre-Market Open Connectivity</td>
<td>N/A</td>
<td>Resolution of connectivity &amp; start-up issues</td>
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<td>9:30 a.m. – 1:00 p.m.</td>
<td>Mock Trading Cycle</td>
<td>Inputs/Outputs</td>
<td>- Real-time Trades (Exchanges)</td>
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<td>- Real-time FIXML Post Trades (Members)</td>
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<td>- Batch FIXML Post Trades (Members)</td>
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<td>- External Encore Post Trades (Members)</td>
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<td>- Real-time Trade DDS – Pends/Rejects (Exchanges)</td>
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<td>- Real-time DDS (Members)</td>
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<td>Saturday 10/13/2018'</td>
<td>1:00 p.m.</td>
<td>Market Close</td>
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<td>1:00 p.m. – 2:00 p.m.</td>
<td>Post Trade Cycle</td>
<td>Inputs/Outputs</td>
<td>- Trade Balancing (Exchanges)</td>
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<td>- Backup Batch Trade Files (Exchanges)</td>
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<td>- Exchange Price File (Exchanges)</td>
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<td>- Real-time FIXML Post Trades (Members)</td>
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<td>- External Encore Post Trades (Members)</td>
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<td>- Real-time DDS (Clearing Members)</td>
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<td>2:00 – 6:00 p.m.</td>
<td>Positions Finalization / End of Day</td>
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<td>- ORSA DDS (Exchanges)</td>
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<td>- Batch DDS (Members)</td>
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<td>- External Encore Reports (Members)</td>
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*Middle/Back Office trade date under discussion due to identified limitations raised by member participants, final decision pending.*

If you have any questions regarding this memo, please contact Member Services Help Desk at the following numbers: 800-544-6091 or 800-621-6072. Within Canada, please call 800-424-7320. Clearing Members may also e-mail us at memberservices@theocc.com.