



REG SCI PLAYBOOK

As of OCTOBER 10, 2017

Agenda

Overview

Guiding Principles

Test Timeline and Break Points

Test Scope Outline

Symbols and CUSIPs

Pre Test and Post Test

Other Considerations

Appendix

DTCC Client Success Criteria

SCI Entities Notification Process









Coordinated Voluntary Test Date

Regulation SCI Rule requirements

Overview

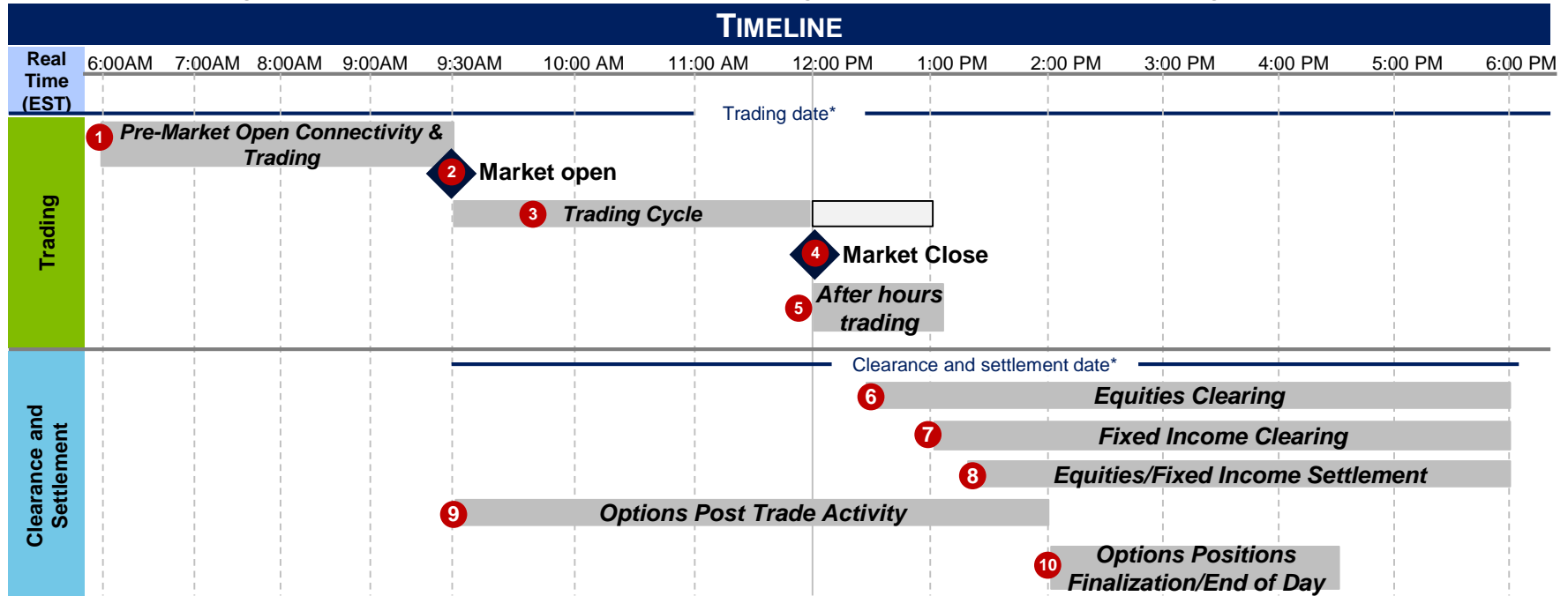
- Regulation SCI requires that each SCI entity designate members/participants (participating members) to take part in the annually scheduled Business Continuity and Disaster Recovery Plan test.
- SCI entities have established criteria for the designation of applicable members that are required to participate in the annual Business Continuity and Disaster Recovery Plan test.
- The objective of the 2017 test is that SCI entities conduct a functional and performance testing of BC/DR plans with participating members to exercise and verify the ability to operate through a business continuity and/or disaster recovery event using backup sites, recovery facilities and backup communication capabilities.

2017 Test - Guiding Principles

| Topic | Approach |
|---|--|
| 2017 test date |  <ul style="list-style-type: none"> 2017 test to align with FIA test, SIFMA Classic and IIROC on Saturday October 14th 2017 |
| Environments connectivity |  <ul style="list-style-type: none"> Participating members should be able to operate from their production or DR environments Participating members who elect to operate from their production environments are required to conduct a separate connectivity test from their DR environment(s) |
| Designated Reg SCI contacts |  <ul style="list-style-type: none"> Reg SCI Entities notification to designated Reg SCI firms is included in the 2017 Reg SCI Playbook Participating members developed & communicated Reg SCI distribution emails to all SCI Entities by SIFMA |
| Test scripts communication and distribution |  <ul style="list-style-type: none"> Reg SCI Entities are responsible for communicating test scripts and other test requirements to their respective participating members Those Reg SCI Entities with public test scripts provided participating members with the address of a dedicated location on their website which houses all REG SCI communications, including test scripts Reg SCI Entities are responsible for providing connectivity testing prior to the 2017 Reg SCI BC/DR test |
| Connectivity testing |  <ul style="list-style-type: none"> Entities will work directly with participating members to provide network connectivity information Connectivity configuration used for pre-test must remain unchanged for 2017 Reg SCI BC/DR test date |
| Text Execution |  <ul style="list-style-type: none"> The 2017 annual Regulation SCI BC/DR test should not require manual intervention by participating member systems to execute the test (manual intervention refers to limited system or configuration changes) The 2017 test is designed to verify that Reg SCI entities are able to demonstrate that they can support the maintenance of fair & orderly markets in the event the Reg SCI entities' business continuity and disaster recovery plans are activated The 2017 test is an industry coordinated test (as required by Reg SCI), but it is not an end-to-end industry integrated test; it is a test for each individual SCI Entity to test its own BC/DR environment(s) |
| Text Scope |  <ul style="list-style-type: none"> The test is not systems capacity test; however the test should generate enough message traffic to support trading and dissemination of market data through the SIPs 2017 annual BC/DR test is not a pass/fail exercise for the participating members; However some SCI members based on their rulebook will publish pass/fail results (OCC will publish results if asked by regulators). Others will provide designated members with a scorecard outlining their capabilities and issues In the event of an unsuccessful test further analysis will be required to understand the root cause (i.e. is the issue on the participating member side, SCI entity, etc.) |
| Classic SIFMA BC/DR Test |  <ul style="list-style-type: none"> The 2017 Regulation SCI BC/DR test is distinct from the classic SIFMA BC/DR test |

Proposed Test Timeline and Break Points

- Test Timeline and Breakpoints to follow the same outline of the 2016 test
- All exchanges and venues will follow a half trading day structure for the testing session



- 1 Exchanges to open their systems any time prior to market open
- 2 Coordinated Market Open across SCI entities - 9:30 AM ET
- 3 Short trading day cycle - 9:30 AM – 12:00 PM ET
[For OCC Exchange Mock Trading Cycle and Encore Daily Activity 9:30 AM-1:00 PM]
- 4 Coordinated Market Close (Equities) – 12:00 PM ET
- 5 After hours trading - 12:00 PM – 1:00 PM ET
- 6 Equities Clearing – 12:30 PM – 6:00 PM
 - Accept trades from the Exchanges – trades will reject with invalid trade Date

- 7 Fixed Income Clearing 1:00 PM – 6:00 PM
 - Trades submitted and matched, settlement totals calculated
- 8 Equities/Fixed Income Settlement 1:30 PM – 6:00 PM
 - Deliver Orders and Payment Orders submitted and settled
 - CNS transactions and settlement totals processed
 - Fixed income settlement totals processed
- 9 Options Post Trade Activity – 9:30 AM – 2:00 PM
- 10 Options Positions Finalization / End of Day – 2:00 PM – 4:30 PM

***Trade and Clearance and settlement dates**

- Exchanges may test additional functionality including IPO's limit up/limit down and trading halts
- DTCC will be able to accept transactions during the Clearance and Settlement window beginning at noon
- DTCC anticipates all 4 entities (Omgeo, FICC, NSCC, DTC) will be simultaneously during the clearing and settlement window
- Trade date for Exchange Systems will be 10/14/2017
- Trade Date for the OCC Encore System will be 10/12/2017 (OCC to change date of 10/14/17 to 10/12/2017)
- Input transaction settlement date for DTCC entities will be 10/13/2017
- OCC's Business/Trade/Clearance date will be 10/12/2017
- OCC's settlement date will be 10/16/2017

Test Scope Outline - Participating Members

The objective of the test scope outline is to provide consistent detail for the execution of the test as well as consistent set of requirements

Test Summary

- Participating Members can conduct the test from their production or DR environments
- Submit a representative sample of daily trade transactions to exchanges
- Work with Reg SCI entities to determine communication protocols
- Cover in-scope product types
- Clean all test data from systems prior to Monday market open

Test Scope Outline - Exchanges

The objective of the test scope outline is to provide consistent detail for the execution of the test as well as consistent set of requirements

Test Summary

- Conduct trade matching
- Transmit matched trades to clearing agencies to demonstrate connectivity to the clearing agency (NSCC will reject the trades at the CDTs gateway and a reject message will be transmitted back to the exchange over FIX connections)
- Receive and verify messages (pending/rejected trades and execution) if applicable
- Clean all test data from systems prior to Monday market open

Note: Exchanges to communicate additional functionality including IPO's limit up/limit down and trading halts

Test Scope Outline - Clearing Agencies

The objective of the test scope outline is to provide consistent detail for the execution of the test as well as consistent set of requirements

Test Summary

NSCC

- NSCC simulate trade executions on behalf of the exchanges
- Participating members access NSCC to inquire on trade data submissions that NSCC would simulate on behalf of the exchanges via web screens or automated output; to validate data & receive output from DTCC

OCC

- Exchanges will:
 - Transmit matched trades to OCC for processing throughout the mock trading cycle to OCC in real time
 - Submit balance sets and balance trades with OCC at close of Mock Trading Lifecycle
 - Receive and verify outbound DDS through connections to OCC's DR environment
 - Purge all test data from systems prior to market open for Monday, October 16 2017
- Firms will:
 - Submit post trade transactions to OCC utilizing the communication protocols normally used in production (External Encore, Real-time MQ, 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
 - Purge all test data from systems prior to market open for Monday, October 16 2017

Fixed Income Clearing (FICC)

- Trades submitted and matched, settlement totals calculated

Omgeo

- Trades submitted and matched/affirmed

DTC settlement test:

- Deliver Order and Payment Order submitted; processed; and submitted for settlement

Test Scope Outline - SIPs

The objective of the test scope outline is to provide consistent detail for the execution of the test as well as consistent set of requirements

Test Summary

SIP - NASDAQ

- The NASDAQ SIP (UTP) will be available in Cermak
- The system of record is the binary version of the SIP feed which will be available during the Reg SCI and Industry BCP/DR test on 10/14

SIP -SIAC

- The OPRA SIP and CTS/CQS SIP will be available in Cermak
- Firms can contact connectivity@nyse.com for any questions on connecting to DR in Cermak
- General questions on SIP support can be addressed to (cqs-cts-opra@siac.com)

Test Scope Outline - FINRA

The objective of the test scope outline is to provide consistent detail for the execution of the test as well as consistent set of requirements

Test Summary

FINRA will create test scripts for each facility and send them to the firms who have been identified to test. Testing will include the following FINRA facilities:

- **TRACE** (Fixed Income – Corporate & Agency Debt and Securitized Products; treasuries are not required in 2017)
- **ORF** (Over the Counter Equities)
- **NY and Nasdaq TRF** (for firms who report NMS trades to the TRFs)
- **OTCBB** (Over the counter Bulletin Board quoting)
- **OATS** (NMS stocks and OTC equity securities)

Equities and Options Symbols and CUSIPs

- Production or Test Symbols will be used for trading
- Test Symbols will be used for clearing (minimum of one test symbol)
- Testing using production symbols is encourage using the below symbols to support triggering market infrastructures/SIPs. It is noted that testing is not limited to the production symbols below
- Production data will be used by FINRA for OTC equities testing (FINRA will accept any valid production symbol)

Production Symbols*

| # | Symbol |
|---|---------------------------------|
| 1 | CSCO |
| 2 | F |
| 3 | MSFT |
| 4 | GE |
| 5 | BAC |
| 6 | SPX (CBOE proprietary product) |
| 7 | SPXW (CBOE proprietary product) |
| 8 | VIX (CBOE proprietary product) |

Test Symbols

| # | Exchange | Symbol |
|----|----------|------------------------------|
| 1 | BATS | ZBZX |
| 2 | BATS | ZTEST |
| 3 | BATS | ZVZZT |
| 4 | BATS | ZWZZT |
| 5 | NASDAQ | ZJZZT |
| 6 | NASDAQ | ZVZZC |
| 7 | NASDAQ | ZXYZ.A |
| 8 | NASDAQ | ZXZZT |
| 9 | NYSE | NTEST Z (NTEST.Z Comstock) |
| 10 | AMEX | AATEST Z (AATEST.Z Comstock) |
| 11 | ARCA | PTEST Z (PTEST.Z Comstock) |
| 12 | IEX | ZIEXT |
| 13 | IEX | ZEXIT |
| 14 | IEX | ZXIET |

* Not Comprehensive - SCI entities may require specific Options to support their testing

Equities Symbols and CUSIPs - FINRA Securities List

| # | FINRA Reporting Facility | Symbol | CUSIP | # | FINRA Reporting Facility | Symbol | CUSIP |
|----|--|-------------|-----------|----|--|--------|-----------|
| 1 | ORF (non clearing test cases) | ALAD | 010722106 | 17 | FINRA TRFs (Nasdaq and NYSE) | ALLY | 02005N100 |
| 2 | | DASTY | 237545108 | 18 | | CAT | 149123101 |
| 3 | | KIMTF | Y47601102 | 19 | | NKE | 654106103 |
| 4 | | KNMCY | | 20 | | AAPL | 037833100 |
| 5 | | VGMTF | | 21 | | EBAY | 278642103 |
| 6 | | FLEW | | 22 | | NFLX | 64110L106 |
| 7 | OTCCBB Quoting | BNNP | 063770101 | | | | |
| 8 | | CCSB | | | | | |
| 9 | TRACE – Fixed Income (Corporate & Agency Debt and Securitized Products) | TEVA4384553 | 88167AAE1 | | | | |
| 10 | | FHLN4384850 | 3130A8T52 | | | | |
| 11 | | CHRC4383282 | 377080AZ9 | | | | |
| 12 | | FMCC4364001 | 3128MJYM6 | | | | |
| 13 | | KMX4303812 | 14313XAC4 | | | | |
| 14 | | SLNO3612001 | 81619PAD9 | | | | |
| 15 | | BAC4347376 | 06053Y678 | | | | |
| 16 | | FNMA3522427 | 01F0306A1 | | | | |

SCI entities test scripts and exchange contact information

BATS

- Link to test script: http://cdn.batstrading.com/resources/schedule_update/2017/Bats-2017-Regulation-SCI-BCP-DR-Test-Plan.pdf

BOX

- BOX has communicated the test scope and framework to designated SCI participants.

CBOE/C2

Link to CBOE test script: <http://www.cboe.com/publish/RegCir/RG17-068.pdf>

Link to C2 test script: http://www.c2exchange.com/publish/RegCir_C2/C2RG17-026.pdf

CHX

- Link to CHX test script dated 8/3/17: <http://www.chx.com/notices/customer-service/>
- SIFMA members that wish to test their DR sites can connect to CHX from **7:30-9:30am (CST)** where **both NY4 and CH2** datacenters are both open
- CHX Required Participants for the Reg SCI test must connect between **9:30-11am (CST)** to our NY4 datacenter. **Only NY4** will be available during this window.
- For example- if a SIFMA member with an established connection to NY4 wishes to test with CHX, they can do so anytime during CHX's testing day. However, a SIFMA member with an established connection to CH2 will only be able to test from 7:30-9:30am (CST).

DTCC

- Link to test script: test scripts will be shared and tailored to DTCC's designated participants

FINRA

- Link to test script: FINRA's test scripts are confidential and will only be shared with FINRA's designated participants

SCI entities test scripts and exchange contact information

IEX

- Link to test script: <https://iextrading.com/docs/IEX%202017%20DR%20Test%20Playbook.pdf>

MIAX and MIAX PEARL

- Link to test script: <http://www.miaxoptions.com/alerts/2017/07/13/miax-options-miax-pearl-reg-sci-sifma-bcp-test-day-plan-october-14-2017-3>

NASDAQ

- Nasdaq's test script includes equities and listed-options for Nasdaq, PHLX, BX, ISE, Gemini and Mercury: <http://www.nasdaqtrader.com/MicroNews.aspx?id=ORA2017-35>
- Nasdaq test alert: <http://www.nasdaqtrader.com/MicroNews.aspx?id=ORA2017-50>

NYSE

- Link to test Link to test script: https://www.nyse.com/publicdocs/nyse/markets/nyse/NYSE_Group_Reg_SCI_Testing_Script_Notice_-_September_29_Reminder.pdf

OCC

- Individualized test strategies will be developed for each registered participant tailored to individual business models.
- OCC Testing requirements are posted at: [OCC Information Memos](https://www.theocc.com/clearing/clearing-infomemos/infomemos1.jsp#41456) <https://www.theocc.com/clearing/clearing-infomemos/infomemos1.jsp#41456> 2017 BC/DR Industry Test Scripts

OTC Markets

- OTC Markets' test scripts are confidential and will only be shared with designated participants

SIFMA Classic Test

- SIFMA Classic Test scripts vary depending on the scope of testing offered by each test entity, an overview of test scope is available in the Summary of Components spreadsheet on the SIFMA test site at: <https://www.sifma.org/resources/general/2017-industry-wide-business-continuity-test/>
- Detailed test scripts will be shared directly by test entities with firms who have registered to test against them

Other Considerations

Connectivity

- SCI entities to work with participating members to define communication protocols in-scope

Orders

- Average number of shares is used with a minimum of 2 orders (no max)

Registration

- The 2017 Regulation SCI BC/DR test is distinct from the classic SIFMA BC/DR test
- Registration to the 2017 Regulation SCI BC/DR test is done through the SCI entities

Success Criteria

- DTCC has outlined the capabilities, designee activity and evidence for inbound and outbound activity with FICC, NSCC, DTC and Omgeo which will be used to determine whether testing has been successful (see chart on Page 19)

Pre Test and Post Test

Pre/Post-test Requirements and Guidelines

| | DTCC | OCC | CBOE /C2 | IEX | NYSE Group | NASDAQ | FINRA |
|---------------------------------------|---|--|---|--|---|---|---|
| Availability for Pre Testing | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Availability for Reg SCI Post Testing | | Yes – validation of prod to prod connectivity once testing is complete and OCC production environment is back up | | | | | |
| Pre- Testing Required | Yes | Yes | Strongly recommended | Strongly recommended | | Yes | |
| Post - Testing Required | | No (Optional) | | No | | | |
| Connectivity Testing Required | No | Yes | Yes | Strongly recommended | No | No | |
| Pre Test Contact Information | Kevin Hanley , 212-855-8092 khanley@dtcc.com | Karen Glad 312-322-2041 occDRtest@theocc.com | Dushone Embrey-Thomas 312-786-8816 embreyd@cboe.com Todd Furney 312-786-7824 furneyt@cboe.com API api@cboe.com | Market Operations marketops@iextrading.com ; 646-343-2300 Technology Operations sre@iextrading.com 646-343-2200 | Serge Sheynkman 212-894-5446 serge.sheynkman@theice.com Chris Loonam 770-857-2718 chris.loonam@theice.com | Don Beery donald.beery@nasdaqomx.com David Lawn david.lawn@nasdaqomx.com | |
| Reg SCI Pre Testing Dates | <ul style="list-style-type: none"> 8/12/2017 9/9/2017 | <ul style="list-style-type: none"> 07/29/2017 08/05/2017 09/09/2017 | <ul style="list-style-type: none"> 9/9/2017 | <ul style="list-style-type: none"> 9/9/2017 | <ul style="list-style-type: none"> 6/3/2017 7/8/2017 | <ul style="list-style-type: none"> 9/9/2017 | <ul style="list-style-type: none"> 9/9/2017 |
| Comments on Reg SCI Pre Testing | Full functionality available | Connectivity testing only | Connectivity testing only | Full functionality during 9/9 pre-test, including auctions | | Full functionality available | Connectivity testing only |
| Reg SCI Post Testing Dates | | <ul style="list-style-type: none"> 10/14/2017 following test 10/15/2017 | | | | | |
| Comments | | | | | | | |

Pre Test and Post Test

Pre/Post-test Requirements and Guidelines

| | UBS (ATS) | CHX | BOX | MIAX & PEARL | OTC Markets | BATS |
|---------------------------------------|--|--|---|--|---|--|
| Availability for Pre Testing | Yes | Yes | Yes | Yes – beginning 8/1 every weekday from 9am to 5pm, or upon request. | Yes | Yes |
| Availability for Reg SCI Post Testing | | | | | | |
| Pre- Testing Required | No | No | Yes | Yes | Yes | Yes |
| Post - Testing Required | | | | | | |
| Connectivity Testing Required | No | | Yes | Yes | Yes | Yes |
| Pre Test Contact Information | Charles Seremetis 212-713-2080 email ats@ubs.com | Kevin Tyson 312-663-2934 kytson@chx.com | Robert Bessette (514-866-2000 rbessette@boxexchange.com | Amy Neiley aneiley@MiaxOptions.com Chaz Palmeri cpalmeri@miaxoptions.com 609-897-7302 | Michael Corrao 212-220-2165 mcorrao@otcmarkets.com | Jeremy Hiserote 913 815 7295 jhiserote@bats.com |
| Reg SCI Pre Testing Dates | | • 9/9/2017 | • 9/9/2017 | After 10/2/2017, earlier by request | • 9/9/2017 | • 9/9/2017 |
| Comments on Reg SCI Pre Testing | Test Inputs Data. Purged after test. | Connectivity testing only | Connectivity testing only | Connectivity testing only | | Connectivity testing only |
| Reg SCI Post Testing Dates | | | | | | |
| Comments | | | | | | |

Appendix

RegSCI DR Test – DTCC Client Success Criteria

| SCI Entity | Inbound to DTCC* | | | outbound from DTCC | | | Criteria |
|------------|--|--|--|---|---|--|--|
| | Capabilities | Designee Activity | Evidence | Capabilities | Designee Activity | Evidence | |
| FICC | FICC will enable the following capabilities for data submission: <ul style="list-style-type: none"> • Web Interface • File Interface (FTP/NDM) • MQ Interface | Designees to submit trade input using one of the following interfaces: <ul style="list-style-type: none"> • Web Interface • File Interface (FTP/NDM) • MQ Interface | FICC will submit evidence of the trade input status using the web interface. | FICC will enable the following capabilities for data inquiry: <ul style="list-style-type: none"> • Web Interface • File Interface (FTP/NDM) • MQ Interface | Each designee can confirm their capability in one of 2 ways: <ol style="list-style-type: none"> 1. Receipt of automated machine readable output from FICC, or; 2. Verification of FICC data processing through the FICC Web Interface, File Interface, or MQ interface. | Each designee will need to submit evidence for at least one of the following: <ol style="list-style-type: none"> 1. Screen shot of the receipt date/time of the message or file sent by FICC to the designee; or; 2. Screen shot of result of data processing. | Firms are able to submit evidence for successful receipt of 1 Input and 1 output transaction |
| NSCC | NSCC will enable data submission through FIX | Designees to send inputs using FIX interfaces | Each designee will need to submit evidence (Screenshots) for inputs being sent to NSCC / Exchanges | NSCC will enable the following capabilities for data inquiry: <ul style="list-style-type: none"> • Web Interface (Settlement) • File Interface (FTP/NDM) • MQ Interface • FIX | Each designee can confirm their capability in one of 2 ways: <ol style="list-style-type: none"> 1. Receipt of automated machine readable output from NSCC, or; 2. Verification of NSCC data processing through the Settlement Web Interface, File Interface, FIX or MQ interface. | Each designee will need to submit evidence for at least one of the following: <ol style="list-style-type: none"> 1. Screen shot of the receipt date/time of the message or file sent by NSCC to the designee; or; 2. Screen shot of pre and post data processing for the test transaction | Firms are able to submit evidence for successful receipt of 1 Input and 1 output transaction |
| DTC | DTC will enable the following capabilities for data submission: <ul style="list-style-type: none"> • Web Interface • File Interface (FTP/NDM) • MQ Interface | Designees to send inputs using one of the following interfaces: <ul style="list-style-type: none"> • Web Interface • File Interface (FTP/NDM) • MQ Interface | Each designee will need to submit evidence (Screenshots) for inputs being sent to DTC | DTC will enable the following capabilities for data inquiry: <ul style="list-style-type: none"> • Web Interface • File Interface (FTP/NDM) • MQ Interface | Each designee can confirm their capability by validating the settlement figures through: the Settlement Web Interface, File Interface, or MQ interface. | Each designee will need to submit evidence for at least one of the following: <ol style="list-style-type: none"> 1. Screen shot of the receipt date/time of the message or file sent by DTC to the designee; or; 2. Screen shot of pre and post data processing for the test transaction | Firms are able to submit evidence for successful receipt of 1 Input and 1 output transaction |
| Omgeo | Omgeo will enable the following capabilities for data submission: <ul style="list-style-type: none"> • Web Interface • File Interface (CCF/MTI) • MQ Interface • FIX | Designees to send inputs using one of the following interfaces: <ul style="list-style-type: none"> • Web Interface • File Interface (CCF/MTI) • MQ Interface • FIX | Each designee will need to submit evidence (Screenshots) for inputs being sent to Omgeo | Omgeo will enable the following capabilities for data inquiry: <ul style="list-style-type: none"> • Web Interface • File Interface (CCF, MTI) • MQ Interface • PTS | Each designee can confirm their capability in one of 2 ways: <ol style="list-style-type: none"> 1. Receive automated machine readable output from Omgeo, or; 2. Validate the matched trade through: the Web Interface, File Interface, MQ interface or PTS. | Each designee will need to submit evidence for at least one of the following: <ol style="list-style-type: none"> 1. Screen shot of the receipt date/time of the message or file sent by Omgeo to the designee; or; 2. Screen shot of pre and post data processing for the test transaction | Firms are able to submit evidence for successful receipt of 1 Input and 1 output transaction |

* - Inbound processing for NSCC is out of scope for 2017 since exchanges are not participating

2017 Test – SCI Entities Notification Process

| SCI Entity | Notification Status | Notification Date | Comments |
|------------------|---------------------|-------------------|--|
| NYSE Group | • Notified | • 5/4/2017 | |
| FINRA | • Notified | • 4/20/2017 | • 2017 Reg SCI DR Test designation emails sent to qualifying firms for; TRACE, ORF, Nasdaq TRF, NYSE TRF, OTCBB and OATS |
| CHX | • Notified | • 7/17/2017 | |
| CBOE/C2 | • Notified | | • General circular for CBOE/C2 issued week of 5/1/2017 (include initial test script). Individual notifications have been sent out to firms that are required to participate for CBOE and C2. |
| BOX | • Notified | | |
| IEX | • Notified | • 4/3/2017 | |
| OCC | • Notified | • 11/30/2016 | • OCC published information memo #40922 (3/31/2017) which documents OCC 2017 Reg SCI BC/DR Industry Testing Strategy |
| MIAX Options | • Notified | • 4/19/2017 | |
| MIAX Pearl | • Notified | • 7/10/2017 | |
| OTC Markets | • Notified | • 5/5/2017 | |
| NASDAQ Exchanges | • Notified | • 2/17/2017 | • Covers: Nasdaq PHLX, Nasdaq Stock Market, Nasdaq Options Market, Nasdaq BX, ISE, ISE Gemini and ISE Mercury |
| NSX | • N/A | • N/A | • Exchange is inoperable – there will not be a 2017 Reg SCI test |
| BATS | • Notified | | • Notification occurred 15 calendar days following the end of Q217 |
| DTCC | • Notified | | |
| MSRB | • N/A | • N/A | • Test directly with FICC |
| UBS (ATS) | • Notified | • 6/5/2017 | |

2017 Test – Coordinated Voluntary Test Date

- Coordinated voluntary pre-Reg SCI BD/DR test date **9/9/2017**.
- A few SCI entities will not be available that date and are providing their test in an alternative date

| SCI Entity | Pre-test schedule | Comments |
|------------------|---|--|
| NYSE Group | • 6/3; 7/8/2017 | |
| FINRA | • 9/9/2017 | |
| CHX | • 9/9/2017 | |
| CBOE/C2 | • 9/9/2017 | • Schedule with the API Group prior to 9/9 if participating |
| BOX | • 9/9/2017 | |
| IEX | • 9/9/2017 | |
| OCC | • 7/29; 8/5; 9/9/2017 | • Firms are required to test with OCC on one of the three pre-connectivity test dates. |
| MIAX Options | • 9/9/2017 | • Pre-test schedule 8/1/17 to 10/13/17 9am to 5pm weekdays or upon request. |
| MIAX Pearl | • 9/9/2017 | • See MIAX Options |
| OTC Markets | | |
| NASDAQ Exchanges | • 9/9/2017 | |
| NSX | N/A | |
| BATS | • 9/9/2017 | DR components available to test connectivity at all times |
| DTCC | • 8/12/2017 • 9/9/2017 | Note: Participation on 9/9 mandatory; if unable to participate must test on 8/12. |
| Global OTC | | |
| Broadridge | • 8/21/2017 – Connectivity Test • 9/23/2017 – Client DR Test | |

Regulation SCI Rule requirements

- An SCI entity's BC/DR plan, including its backup systems, each SCI entity shall: (a) establish standards for the designation of those members or participants that the SCI entity reasonably determines are, taken as a whole, the minimum necessary for the maintenance of fair and orderly markets in the event of the activation of such plans; (b) **designate members or participants** pursuant to the standards established and **require participation** by such designated members or participants in **scheduled functional and performance testing** of the operation of such plans, in the **manner and frequency specified by the SCI entity**, provided that such frequency shall not be less than once every 12 months; and (c) **coordinate the testing** of such plans **on an industry- or sector-wide basis** with **other SCI entities** [Regulation SCI Rule 1004 and FAQs]
- Conduct the **initial functional and performance testing of BC/DR plans** with designated members or participants no later than November 2, 2016 [Regulation SCI FAQs]
- SCI entities are **not required to conduct all functional and performance testing** at once and in coordination with other SCI entities all at the same time.... if, to meet the requirements of the rule, a single annual test cannot be properly conducted, **SCI entities have flexibility to design their testing to include**, for example, **weekend testing** and **testing in segments** over the course of a year [SCI Adopting Release and FAQ's]