

T+2 Industry Test Plan

Version 6.0, May 3, 2017
FINAL



CDS test support

Participants can email the group email address (CDSTestingSupport@tsx.com) with any T+2 testing questions or issues. The CDS T+2 test support team will monitor the group email address throughout regular business hours.

During scheduled testing, participants and service bureaus will receive the following emails:

- **Daily activities email (BOD):** CDS will email the day's activities, including whether special processing is scheduled for the day
- **Batch complete email (EOD):** CDS will email notification to participants at end of day that batch processing is complete and files are available for pick up
- **Ad hoc emails:** CDS will issue an email if CDS encounters issues during testing

Version	Summary of changes
<p>3.0 January 13, 2017</p>	<ul style="list-style-type: none"> • 4.2.1 NEO trading cycle: updated trading schedule times • 5.3.1 TSX trading cycle: updated trading schedule times • 6.2 CDS process and timelines & 6.3 Test overview: updated times • 6.5.3 Auto segregation: this is a new section. Auto segregation will be set to No for all participants • 6.5.4 Event details: this is a new section. Details of the dividend event without due bills and the stock split event with due bills are outlined • 6.5.5 Exchange trades: there will be no exchange trading activity on days specified as Canadian funds holidays • 6.6 Test calendar: April 20 – removed receipt of T+2 trade files as it is a Canadian funds holiday • 6.7 Test activities: updated scheduled times • 7 DTCC testing: <ul style="list-style-type: none"> ○ Added dates that CDS will support DTCC testing ○ Added a list of reports supported by DTCC during testing ○ Added a list of reports that are NOT supported by DTCC during testing that were requested by participants • 9 CDCC: CDCC's external test plan was published on the CCMA website November 30, 2016 • Appendix A: this is a new section. The securities that will be used in T+2 testing are listed.
<p>4.0 February 28, 2017</p> <p>FINAL</p>	<ul style="list-style-type: none"> • 6.3 Test overview: updated incorrect day of the week for May 26 • 6.6 Test calendar: <p>The dates for erroneous exchange trade testing have been identified.</p> <ul style="list-style-type: none"> ○ Cycle 1 dates: April 21 (erroneous exchange trades submitted with CA92206E1088); April 24 (correcting exchange trades submitted) ○ Cycle 2 dates: May 18 (erroneous exchange trade submitted with CA92206E1088); May 19 (correcting exchange trades submitted) <p>The dates CDCC will exercise options have been identified:</p> <ul style="list-style-type: none"> ○ Cycle 1: April 19 ○ Cycle 2: May 18 <p>CDCC will use CA73755L1076 and CA7800871021</p> • 9 CDCC: added contact information (section 9.1) • Appendix A:

Version	Summary of changes
	<ul style="list-style-type: none"> o Two additional securities (CA59934P1018 and CA46135A2074) have been added to list of securities o Securities that are not CNS eligible have been identified o The security that will be used in erroneous exchange trade file testing has been identified (CA92206E1088) o Securities that will be used in CDCC options testing have been identified (CA73755L1076 and CA7800871021)
<p>5.0 March 10, 2017</p> <p>FINAL</p>	<p>Appendix B (New): Additional debt securities have been added for non-exchange trades</p>
<p>6.0 May 3, 2017</p> <p>FINAL</p>	<p>Canadian industry testing cycle 2 has been extended to June 2, 2017 from May 26, 2017. Also, the daily schedule has been updated to allow more time for participant input.</p> <ul style="list-style-type: none"> o Z1 will be available from 7:00 a.m. to 12:30 p.m. EST o Payment exchange will be executed at 12:00 p.m. EST o Trade orders can be entered at the Exchanges until 1:00 p.m. EST o Batch will begin at 1:00 p.m. EST <p>The following sections have been impacted by the above-noted changes:</p> <ul style="list-style-type: none"> • 4.2.1 NEO Trading cycle • 5.3.1 TSX Trading cycle • 6.1 CDS Testing: Test environment • 6.2 CDS Testing: Process and timelines • 6.6 CDS Testing: CDS Test calendar (May) • 6.7 CDS Testing: CDS Test activities <p>The cycle 2 testing period for International Trade Reconciliation has changed. The cycle is from June 5, 2017 to June 16, 2017. The following section has been amended as a result:</p> <ul style="list-style-type: none"> • 7 DTCC testing <p>Appendix A reflects the list of securities as emailed to test participants by CDS on April 12, 2017.</p>

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1 Background

Currently, the settlement period for security trades in North America is transaction date (T) plus three business days, commonly referred to as T+3. However, subsequent to the move by the European Union to a T+2 settlement cycle in 2014, the United States announced in late 2014 that they would similarly move to T+2.

The Canadian Securities Administrators (CSA) has determined that due to the interconnectedness of the Canadian and American markets, Canada must move in tandem with the United States to a T+2 environment. The scheduled implementation date is September 5, 2017.

Moving to T+2 offers the following key benefits:

- Provides an uniform settlement period aligned with the United States for settling securities by T+2
- Reduces counterparty, market and liquidity risks by reducing both outstanding settlements and their associated replacement cost risks
- Increases automation of operational processes across organizations, including:
 - Dematerialization
 - Same-day affirmation (SDA)
 - Alignment between linked markets
 - Streamlined trade corrections

As a result, the Canadian Capital Markets Association (CCMA) was established to coordinate Canadian efforts to shorten the settlement cycle. The CCMA has set up a T+2 Steering Committee (T2SC) and working groups to coordinate the activities that will ensure a smooth transition to T+2 for the Canadian market. CDS, as a member of the CCMA Operations Working Group (CCMA OWG), developed this test plan for execution in a T+2 designated region during Q2 2017.

CDS will facilitate end-to-end testing for the Canadian market, as CDS is Canada's clearing and settlement facility. CDS will support DTCC T+2 testing by providing reports and reconciliation for U.S. trade activity.

2 Testing by individual organizations

Members are encouraged to work with all applicable stakeholders to develop and execute robust and comprehensive internal T+2 test plans.

While developing internal test plans, organizations should consider the following:

- The impact of T+2 changes on their system(s)
- The need to create representative test data
- Scheduling their internal testing to be prepared for industry testing

Test data volumes for double settlement should also be considered– i.e. upon implementation, a single calendar day will have to accommodate both the last T+3 and the first T+2 settlements.

Testing should include people, processes, and technology affected by the shortened settlement cycle, such as:

- Internal system and data changes
- Internal process adjustments
- Operating procedures and documentation updates
- Regression testing on upstream and downstream systems, data, and processes
- Vendor and service bureau changes affecting the organization
- Stress testing using the double settlement day volume

3 CDS industry testing

The following sections cover T+2 testing for Canadian trades.

3.1.1 Participation

Although it is expected that most exchanges, service providers and CDS participants will voluntarily take part in industry testing, testing will be voluntary.

The deadline for participants to indicate they will participate is **November 30, 2016**.

3.2 Out of scope activities

Activities unaffected by the shortened settlement cycle will be excluded from industry testing. The following activities have been identified as out of scope:

- Deposits
- Withdrawals
- Pledge/collateralization
- Northbound/southbound movements
- International movements
- Direct participant (DP) trade matching

3.3 Testing process

The CDS industry T+2 testing is designed to support full end-to-end testing including:

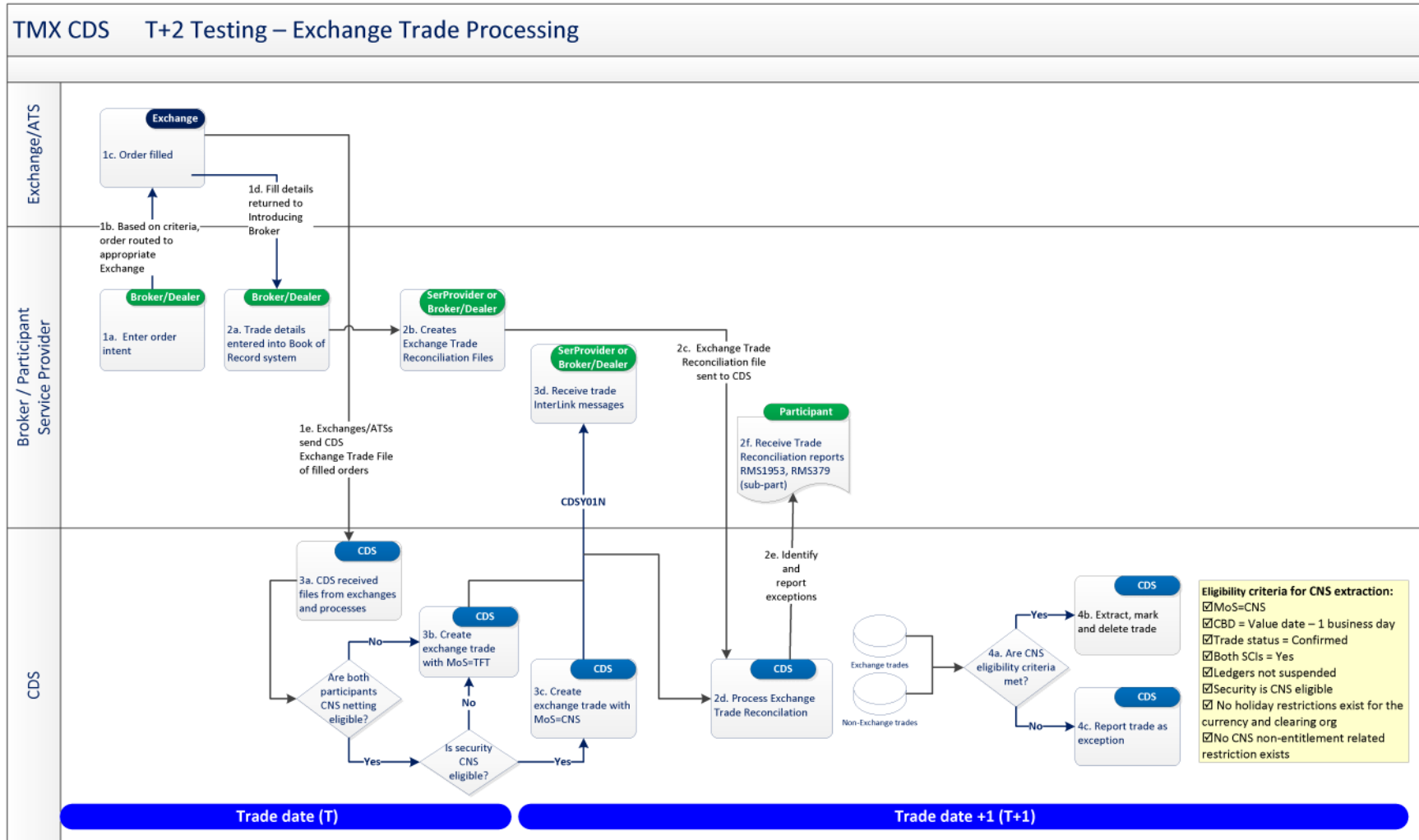
- Entry of exchange trade orders by participants
- Execution of orders by exchanges
- Transfer of exchange trade files from exchanges to CDS
- Entry and confirmation of non-exchange trades in CDSX by participants and service bureaus
- Extraction, netting and marking of CNS eligible trades
- Settlement of TFT trades and outstanding CNS positions
- Creation of outbound files
- Execution of trade reconciliation

3.4 Test scenarios

- End-to-end testing will be supported, in order to allow firms to test the full trade lifecycle from their internal trade order systems to CDS post-trade settlement.
 - CDS will partner with NEO Exchange and TSX to participate in T+2 testing to enable firms to conduct full trade end-to-end lifecycle testing
 - Testing will include both exchange and non-exchange trades
 - Participants are encouraged to set up testing partners to facilitate testing data
- Corporate actions will be executed in the test environment, allowing testing of the following impacts:
 - Dividend event to test the shortened settlement period between ex-date and record date
 - Stock split with due bill event to test the shortened settlement period between the ex-date and due bill redemption date
- The following exception scenarios are in scope:
 - United States markets open/ Canadian markets closed
 - Canadian markets open/United States markets closed
- Erroneous exchange and/or ATS trade file with incorrect value dates
- Expiry, options exercised and assigned file for CDCC

3.4.1 TMX CDS T+2 exchange trade processing

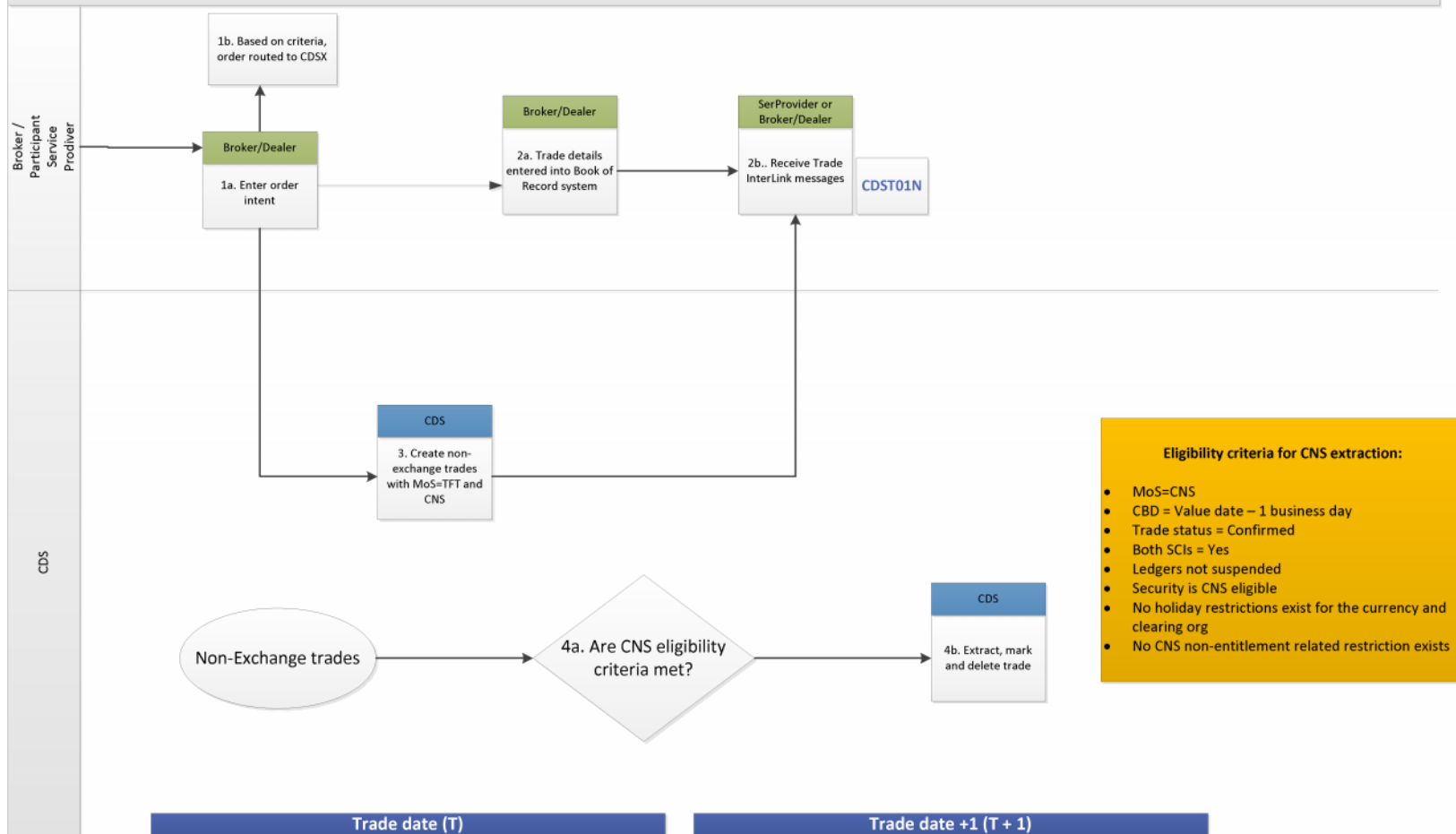
The following illustrates how exchange trade processing will be tested.



3.4.2 TMX CDS T+2 non-exchange trade processing

The following illustrates how non-exchange trade processing will be tested.

TMX CDS T+2 Testing – Non-Exchange Trade Processing



4 NEO Exchange

NEO Exchange's GTE test environment will be available during the T+2 Q2 2017 testing period for participants to enter orders.

The following sections cover the data, activities and contacts for NEO Exchange testing.

4.1 NEO Exchange test calendar

For more information, see 6.6 Test calendar.

4.2 NEO Exchange test activities

NEO Exchange will test order entry during a dedicated trading cycle.

4.2.1 Trading cycle

NEO Exchange will provide a dedicated trading cycle for T+2 testing in NEO Exchange's GTE test environment:

- All trading books will be available:
 - Lit
 - NEO
 - Cross
 - SST
- The following will be the daily trading schedule for each book:

NEO

Time (EST)	Activity
6:00 a.m.	Market open for submitting and executing trade orders
1:00 p.m.	Market close

NEO Connect

Time (EST)	Activity
6:00 a.m.	Market open for submitting and executing trade orders
12:30 p.m.	Submitting trade orders close
12:45 p.m.	Market Close

- The daily trading schedule excludes opening or closing auctions
- NEO Exchange will send the daily Exchange Trade File to CDS before 1:30 p.m. EST

4.2.2 Order entry

NEO Exchange will support the following trade types for testing:

- One or more trades in the SST book for each of the special settlement terms:
 - Cash
 - Cash today
 - Future settlement (including T+3 and later)
- A cross with each of the special settlement terms
- A trade correction, where the settlement date changes

Participants are encouraged to include the trade types tested by NEO Exchange in their test plans.

Participants will arrange their own trading partners.

4.3 NEO Exchange test securities

Refer to Appendix A for the list of test securities.

4.4 NEO Exchange contact information

The following are the contacts identified for testing.

Names	Role	Email address	Telephone number
Janet Hall	Business Analyst (primary contact)	janet.hall@aequin.com	416-933-5907
Erik Sloane	Head of Product Management (secondary contact)	erik.sloane@aequin.com	416-933-5904
Lloyd Clarke	Head of Business Operations	lloyd.clarke@aequin.com	416-933-5913
Trading Services	Business Operations Service Desk	NEOTradingServices@aequin.com	416-933-5950

5 TSX Exchange

5.1 TSX Test overview

TSX Markets' GTE test environment will be available during the T+2 Q2 2017 testing period for participants to enter orders.

5.2 TSX Test calendar

TSX will configure their trading calendar to accommodate the needs of the testing community.

5.3 TSX Test activities

TSX will test customer order entry/execution during a dedicated trading cycle.

5.3.1 Trading cycle

TSX will provide a dedicated trading cycle for T+2 testing in TSX Markets' GTE test environment:

- Customer order entry/executions
- GTE connected to EIS Acceptance 2
- EIS Acceptance 2 to generate and send clearing file with new default of T+2 to CDS
- Send a trade file with erroneous value date (i.e. exception testing)
- TSX will send the daily Exchange Trade File to CDS before 1:30 p.m. EST
- The following will be the daily trading schedule:

Time (EST)	Activity
7:30 a.m.	Pre Open - Market open for submitting trade orders
10:00 a.m.	Post Open - Trade Order matching /execution begins
1:00 p.m.	Market close

5.3.2 Order entry

TSX Markets encourages participants to include the following trade types in their respective test plans:

- One or more trades in the SST book for each of the special settlement terms:
 - Cash
 - Cash today
 - Future settlement (including T+3 and later)
- A cross with each of the special settlement terms
- A trade correction, where the settlement date changes

Participants will arrange their own trading partners.

5.4 TSX Test securities

Refer to Appendix A for the list of test securities.

5.5 TSX contact information

The following table lists the primary contact for TSX.

Business	Names	Email address	Telephone number
TSX Markets	Mark Jarrett	Mark.Jarrett@tsx.com	416-947-4693

6 CDS testing

6.1 Test environment

CDS will designate the CDS Z1 region to execute testing from April 13, 2017 through June 2, 2017. This test region is the same one used during CNS Novation testing in Q3 2016.

6.2 Process and timelines

T+2 testing will occur during Q2 2017, from mid-April to June 2, 2017.

- The timeline will occur in two week intervals:
 - Week 1 and 2: Test period
 - Week 3 and 4:
 - Reassessment and defect testing period
 - Reset test data
 - Weeks 5 to 7: Final test period
- Trades entered during the first day of each test period will have T+3 settlement to allow testing of a dual settlement day on Day 4
- Production security numbers will be used
- Security positions and cap will be provided
- Reports, files and messages will be provided in the test region
- CDSX will be available for testing daily from **7:00 a.m. EST to 12:30 p.m. EST**
- Payment exchange will be processed daily at **12:00 p.m. EST** for both CAD and USD
- The end of day batch will run daily at **1:00 p.m. EST**
- U.S. and Canadian funds holidays will be included
- Business testing days will match the calendar days

6.3 Test overview

The following table provides additional details about the testing process and timelines.

Test component	Details
External testing period	Thursday, April 13, 2017 to Friday, June 2, 2017
Participant Z1 user access	<ul style="list-style-type: none"> • Participants will be provided with test user IDs and passwords for Z1 • Participants will be required to access Z1 online using the user ID and password provided prior to the start of the external testing period • RMS reports are viewable, not printable
Connectivity testing	Participants and Service Bureaus will be required to complete connectivity testing prior to the start of the external testing period
Daily schedule	<ul style="list-style-type: none"> • The Z1 online region will be available from 7 a.m. EST to 12:30 p.m. EST • Payment exchange will be processed each test day at 12:00 p.m. EST • The overnight batch process will be executed every test day
Syncing data prior to test	<ul style="list-style-type: none"> • Before the start of testing, securities and holidays must be synchronized with service bureaus/participants • Ledger adjustments will be entered by CDS to create security ledger positions; CDSU01N messages will be generated by CDS

6.4 Participant test preparation activities

The following will be the test preparation activities for participant testing.

	Activity	Date
1.	Confirm participation in external test via group email address (CDSTestingSupport@tsx.com)	By November 30, 2016 ✓
2.	Provide test CUIDS via group email address (CDSTestingSupport@tsx.com)	By November 30, 2016 ✓
3.	Confirm subscription requirements (files and messaging) via group email address (CDSTestingSupport@tsx.com) See 6.5.7 File and InterLink subscriptions for a list of available files and messages	By November 30, 2016 ✓
4.	Provide contact information (email addresses and phone numbers) via group email address (CDSTestingSupport@tsx.com) for: <ul style="list-style-type: none"> • Business contact(s) • Technical contact(s) for FTP setup and connectivity testing • Technical contact(s) for MQ setup and connectivity testing 	By November 30, 2016 ✓
5.	Perform connectivity testing (files and messaging)	Q1 2017
6.	Verify online access to Z1 region using test IDs	Q1 2017

6.5 Test data

The following sections cover the data that will be used during testing.

6.5.1 Securities

Refer to Appendix A for the list of test securities.

A security position of 1,000,000 for each security will be credited to each participant's SA000 as part of data set-up.

6.5.2 Funds

Each participant will be provided with the following CAPs:

- 500,000,000 CAD
- 500,000,000 USD

6.5.3 Auto segregation (Auto seg)

Auto seg will be set to 'No' for all participants. If required, participants can activate their auto seg using CDSX online functionality (Account Maintenance – MAM).

6.5.4 Event details

Dividend event without due bills

Security number: CA73927C2094
 Payment rate: Hold 1.00 share, receive 0.1575 CAD

	Test Cycle 1	Test Cycle 2
Payable date	2017-04-24	2017-05-23
Ex-date	2017-04-17	2017-05-15
Record date	2017-04-18	2017-05-16

Stock split event with due bills

Security number: CA98462Y1007
 Payment rate: Hold 1.00 share, receive 1.00 share

	Test Cycle 1	Test Cycle 2
Payable date	2017-04-28	2017-05-26
Record date	2017-04-18	2017-05-16
Ex-date	2017-04-25	2017-05-24
Due bill redemption date	2017-04-27	2017-05-25

6.5.5 Exchange trades

Participants will enter exchange trades through their trade order systems.

There will be no exchange trading activity on the days specified as Canadian funds holidays in the testing cycles:

- Cycle 1: April 20, 2017
- Cycle 2: May 17, 2017

6.5.6 Non-exchange trades

Participants will arrange with the counterparty of their choice to input non-exchange trades. Participants will be required to contact their counterparty and/or T+2 test partner to arrange for confirmation of the trades.

6.5.7 File and InterLink subscriptions

Each service bureau and participant will identify their file and message subscription requirements for the test environment.

The following are the available subscription items.

- **Inbound/outbound messages:**
 - CDST*
 - CDSY*
 - CDSA*
 - CDSU01N
 - CDSX01N
 - CDSX03N
 - CDSN01N
- **Inbound files:**
 - Exchange trade reconciliation
- **Outbound files:**
 - Ledger update file (0001)
 - CNS Activity file – EOD (0006)
 - CNS Activity file – BOD (0031)
 - CNS Position file (0010)
 - Trade file – EOD (0002)
 - Trade file – BOD (0009)

Note: FTP reports are not supported.

6.5.8 RMS reports

RMS report IDs that apply to external testing will have a suffix of D. For example, the external testing version of the report ID for the Daily Transactions Report is TON01000230D.

CDS will generate the following reports during testing.

Report ID	Report Name	Timing
XXXA0002536D	ALLOTTED TRADES-BOD REPORT	BOD
XXXLL000369D	CLAIMS FOR SETTLED TRADES AND OUTSTANDING CNS POSITIONS REPORT	EOD
XXXLL000300D	CNS TRADE EXCEPTIONS REPORT	Intraday
XXXLL000439D	CNS ACTIVITY REPORT	EOD
XXXLL000010D	CNS CASH SUMMARY REPORT - POST CNS/BNS	BOD
XXXLL000229D	CNS MARK DIFFERENCE DETAILS REPORT	BOD
XXXLL000230D	DAILY TRANSACTION REPORT	EOD
XXXLL002194D	DOMESTIC EXCHANGE TRADE REPORT	BOD
XXXLL000239D	DUE BILL CALCULATION REPORT	EOD
XXXA0001953D	EXCHANGE TRADE RECONCILIATION REPORT (DOMESTIC)	BOD
XXXLL000090D	FINAL CONSOLIDATED CASH RECAP REPORT	Intraday
XXXLL000227D	OUTSTANDING CNS POSITION UPDATE REPORT	BOD
XXXLL000073D	OUTSTANDING CONFIRMED TRANSACTIONS REPORT	EOD
XXXLL001949D	OUTSTANDING EXCHANGE TRADE REPORT	EOD

Report ID	Report Name	Timing
XXXLL000217D	OVERNIGHT PAYMENT RELEASE REPORT	BOD
XXXLL000201D	PROJECTED PAYMENT REPORT FOR PARTICIPANTS	EOD
XXXA0000038D	SETTLED TRANSACTIONS REPORT	OR
XXXLL001912D	SUMMARY OF CONSOLIDATED PAYMENT REPORT	EOD
XXXLL000016D	SUMMARY OF OUTSTANDING CONFIRMED TRANSACTIONS REPORT	BOD
XXXLL000219D	SUMMARY OF PAYMENT RELEASE REPORT	EOD
XXXLL001910D	SUMMARY OF PROJECTED PAYMENT REPORT FOR PARTICIPANTS	EOD
XXXLL002454D	UNSETTLED NON EXCHANGE TRADE REPORT - POST BNS	BOD
XXXLL001951D	UNSETTLED NON EXCHANGE TRADE REPORT - PRE BNS	BOD
XXXA0000080D	UNSETTLED TRANSACTIONS REPORT	OR
XXXLL000394D	VALUE-DATED CNS POSITION UPDATE REPORT	BOD

XXXA = CUID

XXXLL = Ledger

BOD = Beginning of day report

EOD = End of day report

OR = On request report

6.6 Test calendar

The following calendars provide an overview of the testing schedule.

April 2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10 Data set-up	11 Data set-up	12 Data set-up	13 ✓ Testing begins ✓ Receive T+3 trade file	14 Good Friday: CDS closed	15
16	17 ✓ Receive T+2 trade file ✓ DIV ex-date	18 ✓ Receive T+2 trade file ✓ DIV record date ✓ SS with due bills record date	19 ✓ Receive T+2 trade file ✓ Double settlement date ✓ CDCC options exercised	20 Holiday processing: ✓ Market open in U.S./ Closed in Canada	21 Receive T+2 trade file (Includes erroneous exchange trades for CA92206E1088)	22
23	24 ✓ Receive T+2 trade file (Includes correcting exchange trades for CA92206E1088) ✓ DIV payable date	25 ✓ Receive T+2 trade file ✓ SS with due bills ex-date	26 Holiday processing: ✓ Market open in Canada/ Closed in U.S. ✓ Receive T+2 trade file	27 SS due bill redemption date	28 ✓ Last settlement date ✓ SS with due bills CDS payable date	29
30						

May/June 2017: Cycle 2 extended to June 2, 2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Review	2 Review	3 Review	4 Review	5 Review	6
7	8 Reset data in region	9 Data set-up	10 Data set-up	11 Receive T+3 trade file	12 Holiday processing: ✓ Market open in Canada/ Closed in U.S. ✓ Receive T+2 trade file	13
14	15 ✓ Receive T+2 trade file ✓ DIV ex-date	16 ✓ Receive T+2 trade file ✓ DIV record date ✓ SS with due bills record date ✓ Double settlement date	17 Holiday processing: Market open in U.S./ Closed in Canada	18 ✓ Receive T+2 trade file (Includes erroneous exchange trades for CA92206E1088) ✓ CDCC options exercised	19 ✓ Receive T+2 trade file (Includes correcting exchange trades for CA92206E1088)	20
21	22 Victoria Day: CDS closed	23 ✓ Receive T+2 trade file ✓ DIV payable date	24 ✓ Receive T+2 trade file ✓ SS with due bills ex-date	25 ✓ Receive T+2 trade file ✓ SS due bill redemption date	26 ✓ Receive T+2 trade file ✓ SS with due bills CDS payable date	27
28	29 Holiday processing: ✓ Market open in Canada/ Closed in U.S. ✓ Receive T+2 trade file	30 ✓ Receive T+2 trade file	31 ✓ Receive T+2 trade file	June 1 ✓ No exchange file processing	June 2 ✓ Last settlement date ✓ No exchange file processing	

6.7 CDS Test activities

The following table outlines the test activities that will be performed daily during the test period.

Daily schedule			
Time (EST)	Activity	Details	Messages distributed
7:00 a.m.	Z1 online region available	TFT settlement	CDSU01N
		Intra-day CNS settlement	CDSU01N, CDSX01N
		Non-exchange trade entry and confirmation transactions	CDST01N, CDST10N
12:00 p.m.	Payment exchange executed		CDSN01N
12:30 p.m.	Z1 online region unavailable		
1:00 p.m. to 5:00 p.m.	Overnight batch executed	EOD reports created	
		EOD files created	
		DATE ROLLOVER	CDSN01N
		Exchange trade files processed Trade extraction, netting and marking	CDSU01N, CDSX01N, CDSX03N
		CNS reports created	
		BOD files created	
		Exchange trade notification messages sent	CDSY01N
		CNS/BNS Settlement	CDSU01N, CDSX01N
		Participant version of EOD and BOD files created Email notification sent to participants	

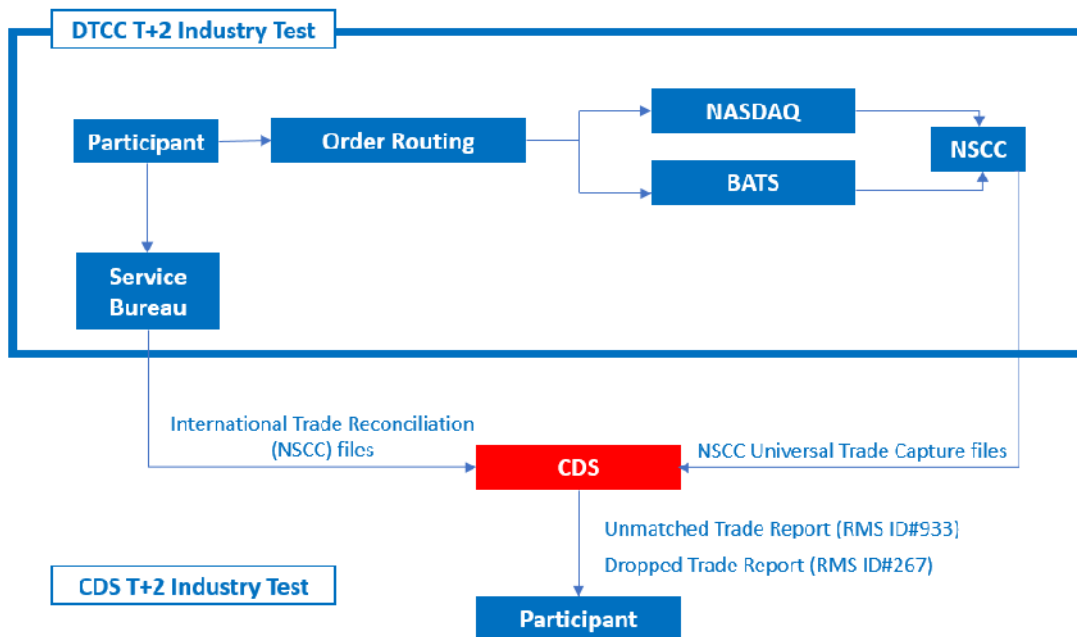
Daily schedule			
Time (EST)	Activity	Details	Messages distributed
By 12:30 a.m.	CDS receives trade reconciliation files from service bureaus and participants		
7:00 a.m.	Trade reconciliation process executed		
7:30 a.m.	Trade reconciliation reports available*		

*Time will vary if problems are encountered during the reconciliation process

7 DTCC testing

DTCC has published their industry T+2 test framework and schedule on the DTCC website. As part of DTCC's test, CDS participants will submit their trade orders to the U.S. exchanges for execution in the U.S. market and settlement in NSCC.

The following graphic outlines the data flow to support trade reconciliation processes during DTCC testing.



CDS will provide the following support to participants submitting orders for DTCC testing:

- NSCC/DTCC RMS reports:** CDS will load test reports received from DTCC into RMS. These reports will be produced until the end of DTCC's last test cycle (August 26, 2017)

T+2 Industry Test Plan

- **International trade reconciliation:** NSCC and participants /service bureaus will forward their test ITRS files to CDS. CDS will execute the reconciliation process, which will generate reports in RMS
- **Locked-in trade reconciliation:** NSCC and participants/service bureaus will forward their test LTRS files to CDS. CDS will execute the reconciliation process, which will generate reports in RMS

CDS will provide support for CDS/DTCC testing during the period:

- March 13, 2017 to March 24, 2017 and
- June 5, 2017 to June 16, 2017

The following table outlines the test activities that will be performed daily during this test period.

Time (EST)	Activity	Details
By 12:30 am	CDS receives trade reconciliation files from service bureaus and participants	
7:00 am	Trade reconciliation process executed	
7:30 am	Trade reconciliation and DTCC/NSCC pass through reports available*	

*Time will vary if problems are encountered

Note: Northbound and southbound movements are out of scope for CDS support during DTCC testing.

The following are the New York Link ITRS/LTRS reports that will be included in DTCC testing.

Report ID	Report Name
XXXA0000267D	CDS TRADING BLOTTER - DROPPED TRADE REPORT
XXXA0000933D	CDS TRADING BLOTTER - UNMATCHED TRADE REPORT
XXXA0001890D	LOCKED-IN TRADE EXCEPTION REPORT

XXXA = CUID

The following DTCC/NSCC pass through reports will be supported during the CDS/DTCC test period.

Report ID	Report Name
XXXA0003409	CNS ACCOUNTING SUMMARY
XXXA0003426	CNS DAY MISCELLANEOUS ACTIVITY
XXXA0003405	CNS DIVIDEND ACTIVITY REPORT
XXXA0003411	CNS DUE BILL ACTIVITY REPORT
XXXA0003402	CNS NIGHT MISCELLANEOUS ACTIVITY
XXXA0003414	CNS POSITION PRIOR TO DAY CYCLE
XXXA0003413	CNS POSITION PRIOR TO NIGHT CYCLE
XXXA0003406	CNS PROJECTION REPORT
XXXA0000198	CNS RECEIVE/DELIVER INSTRUCTION REPORT
XXXA0003403	CNS RECORD DATE REPORT
XXXA0003407	CNS SETTLEMENT ACTIVITY - DAY
XXXA0003404	CNS SETTLEMENT ACTIVITY - NIGHT

The following reports were requested by participants; however, they are not supported by DTCC during T+2 testing.

Report ID	Report Name
XXXA0003441	CNS BUY-IN ACTIVITY
XXXA0003408	CNS CASH RECONCILIATION - DAY
XXXA0003401	CNS CASH RECONCILIATION - NIGHT
XXXA0004279	CNS CONSOLIDATED TRADE SUMMARY
XXXA0003424	CNS CONSOLIDATED TRADE SUMMARY SUPPLEMENTAL (2)
XXXA0003440	CONSOLIDATED PARTICIPANT STATEMENT FOR THE SETTLEMENT DATE
XXXA0003430	DELIVER & RECEIVE SETTLEMENT ACTIVITY REPORT (NIGHT)
XXXA0003432	DIV/REORG CASH SETTLEMENT ITEMS
XXXA0003428	PARTICIPANT DAILY ACTIVITY STATEMENT

8 Exchanges/Alternative trading systems (ATS)

Exchanges or alternative trading systems providers should contact CDS if they would like to provide their trade file to CDS.

9 CDCC

CDCC will follow CDS's test schedule plan. CDCC's external test plan was published on the CCMA website November 30, 2016. (<http://ccma-acmc.ca/en/wp-content/uploads/CDCC-T2-External-Test-Plan-November-18-2016.pdf>)

9.1 CDCC contact information

The following table lists the primary contact for TSX.

Name	Email address	Telephone number
Roger Warner	roger.warner@tmx.com	416-350-2775

Appendix A: Test securities

Symbol	Full Name	CUSIP	ISIN	Curr	Prod Type	List Mkt	
ATP.DB.D	ATLANTIC POWER CORP 6.00 PCT SER D DEBS	04878QAS2	CA04878QAS27	CAD	Debt	TSX	🚫
BAM.A	BROOKFIELD ASSET MANAGEMENT INC	112585104	CA1125851040	CAD	Equity	TSX	
BLN	BLACKLINE SAFETY CORP	092382100	CA0923821007	CAD	Equity	TSXV	!
CIGI	COLLIERS INTL SUB VTG COM	194693107	CA1946931070	CAD	Equity	TSX	
CPD	ISHARES SP TSX CDN PREF IDX ETF	46431G205	CA46431G2053	CAD	Equity	TSX	
DAN	ARIANNE PHOSPHATE INC COM	04035D102	CA04035D1024	CAD	Equity	TSXV	
DWG	POWERSHARES DWA GLOBAL MOMENTUM INDEX ETF	73939B108	CA73939B1085	CAD	Equity	NEO	
GMM.U	GENERAL MOTORS COMPANY	37045V100	US37045V1008	USD	Equity	TSX	
HEX	HORIZONS BP NYMEX NAT GAS BULL PLUS ETF	44049V102	CA44049V1022	CAD	Equity	TSX	
ITEP	TRIMARK EUROPLUS FUND - SERIES PTF	895954303	CA8959543031	CAD	PTF	NEO	🚫
IVEG.U	INVESCO EUROPEAN GROWTH CLASS - SERIES PTFU	46135A207	CA46135A2074	USD	PTF	NEO	🔄 🚫 !
K	KINROSS GOLD CORP	496902404	CA4969024047	CAD	Equity	TSX	
L	LOBLAW CO	539481101	CA5394811015	CAD	Equity	TSX	
MST.UN	MILESTONE APARTMENTS REIT UN	59934P101	CA59934P1018	CAD	Equity	TSX	🔄 !
NWH.DB	NORTHWEST HEALTHCARE PROP REIT 5.25 DEBS	667495AA3	CA667495AA32	CAD	Debt	TSX	🚫
PAR.UN	PARTNERS REIT UNITS	70214B118	CA70214B1186	CAD	Equity	TSX	
PATH	COUNTERPATH CO COM PAR \$0.001	22228P302	US22228P3029	CAD	Equity	TSX	!
PHM.DB	PATIENT HOME MONITORING 7.50 PCT DEBS	70324GAB2	CA70324GAB29	CAD	Debt	TSXV	🚫
POT	POTASH CORP OF SASK INC	73755L107	CA73755L1076	CAD	Equity	TSX	🕒
PWF.PR.A	POWER FINANCIAL CORPORATION	73927C209	CA73927C2094	CAD	Equity	TSX	
SLF.PR.A	SUN LIFE FINANCIAL INC PR. SERIES 1	866796204	CA8667962044	CAD	Equity	TSX	
RY	ROYAL BANK OF CANADA	780087102	CA7800871021	CAD	Equity	TSX	🕒
USB.U	POWERSHARES LAD US 0 TO 5 YR CORP BD USD	73937C207	CA73937C2076	USD	Equity	TSX	
YRI	YAMANA GOLD INC	98462Y100	CA98462Y1007	CAD	Equity	TSX	
ZHY	BMO HIGH YLD US CORP BND HDG CAD IDX ETF	05590B100	CA05590B1004	CAD	Equity	TSX	
VGH	VANGUARD US DIV APPR IDX ETF CAD HEDGE	92206E108	CA92206E1088	CAD	Equity	TSX	🗑️

Dividend event - CA73927C2094

Stock split event - CA98462Y1007

🔄 Security was added to this list in v4.0

🚫 Security is not CNS eligible

🕒 Security will be used for CDCC options exercised

🗑️ Security will be used for erroneous exchange trades testing

! security detail was corrected on March 30, 2017

! security detail was corrected on April 11, 2017

Appendix B: Test debt securities (for non-exchange trades)

Security Short Name	CUSIP	ISIN	Instrument Type
CITY OF TORONTO	891288DH2	CA891288DH21	MUN
GOVT CDA BD CAD 230601\$ 8.000	135087UT9	CA135087UT96	CDA
GOVT CDA S-G401 0.50% 020119	135087G40	CA135087G401	CDA
NHA MCAP CDOR+0.350% 08/01/20	62941Z4W1	CA62941Z4W16	MBS
ONT PROV 6.5% 03/08/2029	683234LJ5	CA683234LJ58	PRV
TELUS 3.35% NTS SER CK 040124	87971MAR4	CA87971MAR49	CRP