

Technical Notice 21-009

MX Participation in the FIA 2021and SFIMA Disaster Recovery Tests

The Montréal Exchange (MX) will be participating in the aligned Futures Industry Association (FIA) and Securities Industry and Financial Markets Association (SIFMA) Disaster Recovery tests on Saturday, October 23th 2021.

This notice details the sequence of events during the Disaster simulation. It also provides information on registration and contact information.

On Saturday October 23, 2021 Test Day Timelines Overview

Time	Access to Primary or back-up system		Instrument state
7:00 am - 8:20 am	Primary		Pre-open
8:20 am - 8:45			Markets Open
8:45 am - 11 :00 am*	No access	8:45 am - 9:00 am disaster simulation 9:00 - 11:00 recovery	Market out of service
Time of recovery		(22	15 minutes - Pre-Open
until 1:30 pm	Back-up/DR		Markets Open

*System will be up at the latest by 11

Pre-Failover

Starting at 7:00 am EDT, the Primary site (MCC) will be up and running and participants will be able to engage connectivity.

Selected instruments will be in a pre-open phase. No trading will occur before 8:20. Between 8:20 and 8:45 the instruments will be in continuous trading mode (matching prices will produce trades)
MX will not be using its production database for these tests. The order book will be empty when tests begin. Orders must be entered with October 23 date (day orders only)

Disaster Simulation and Recovery

Between 8:45 am to (latest) 11:00 am

> 8:45 am: MX will abruptly interrupt SOLA trading. In the approximate 15 minutes that follows, POP access will also be interrupted. In consequence, the primary site will be isolated by a network failover.

Post-Failover

Between 9:00 am - 11:00 am EDT, MX will have switched over to the back-up location in Toronto (DR site known as TCF).

> Immediately following the conclusion of our recovery process, we will offer a 15-minute pre-open period, followed by an instrument state change to allow for continuous trading. Products will remain in a tradable state until 1:30 pm EDT.

 \succ There is no continuity between the pre-open session and this one. Our back-up system will start as if it were a new day. If you were previously connected to our system, please make sure to reset your system to avoid de-synchronization of messaging.

> All orders entered during the pre-failover period will be in the system except while connected (as everyone will get disconnected) and BulkQuotes messages.

> Order book reconciliation will be possible through:

• SAIL users: AF message (Order Request)

• FIX users: AF message (Order Mass Status Request) - Please refer to the Disaster Recovery Client Impact Guide available on our webstore(<u>www.tmxwebstore.com</u>)

 \succ During the test, MX Participants and ISVs will be able to connect to the MX Production network (IP & ports) from their Disaster Recovery (DR) environment. MX will redirect participants to the MX DR environment in a seamless fashion.

> MX Participants must be in a position to maintain their connectivity to the MX from TCF. MX will ensure connectivity.

> MX POPs are located in Markham and Toronto.

 \succ Participants will not be required to make network, DNS, or IP changes in order to connect to the MX DR site during the tests.

> MX will provide bids and offers for instruments. Participants will be able to lift or hit MX market. Firm IDs (mnemonic) representing the MX will be 901 and 902. > During the exercise MX will be sending periodic status emails.

Scheduled testing appointments are not needed. If required, the Technical Help Desk (THD) and TMX Group IT support staff will be on-site and available to assist, but please provide your email to TMX Market Operations if you are participating in the DR testing.

Please note: Tests will only be considered conclusive if a participant has executed at least 2 trades during the post-failover.

Once your tests have completed, please send an email to DR-BCSupport@tmx.com with the following:

Participation to:	FIA and/or SIFMA			
Firm name and ID:	ABC / BDM004			
Application tested:	ATR, TMS, HSVF, etc.			
Successful trade on:	BAX, SXF, SXO, SU or MFC			
Comments:	Describe any issues you may have encountered during the			
test, including how they were resolved or if further investigation is required.				

Upon conclusion of our testing window at 1:30 pm EDT, the Production environment will be immediately brought down and scheduled for reactivation at its regular time on Saturday, October 23th, at 10:00 am EDT. Please monitor your connections once your processes have reinitialized and report any issues or outages to the Technical Service Desk by phone at 514-871-7872.

Test Symbols

Transaction	Security Identifier	MX Prices	
Type (buy/Sell)	(Symbol/CUSIP/ISIN)	Buy	Sell
B/S	BAX November 2021 BAXX21	99.00	99.99
B/S	SXF June 2022 (SXFM22)	1000.00	1400.00
B/S	SXO MAR 22 1100.00 Put (SXO 220318P1100.00)	20.00	30.00
B/S	SU Jan 22 40.00 Call (SU 220121C40.00)	0.10	2.00
B/S	MFC Jan 23 20.00 Put (MFC 230120P20.00)	0.05	3.00

Participants can test connectivity with the following services:

SAIL	FIX	ATR
Drop Copy	TMS	Clearing API
MX FTP/SFTP Server	LOPR	HSVF
(EOD and PAR Reports)	LOPR	FI3VF
OBF (Order-Book Feed)		

Test Registration

As we have two organizations sponsoring this annual test, we expect a large number of firms participating. To facilitate the coordination and appropriate level of communication on test day, please ensure to officially register working staff via the respective websites of the association or organization towards which your firm plans to participate. Please find links below:

FIA website https://secure.fia.org/bcp/test-registration.asp

SIFMA website http://www.sifma.org/services/bcp/industry-testing/

Please direct questions, comments or requests for additional information to our Technical Help Desk.

Best Regards,

Technical Help Desk: Toll-free: 1-877-588-8489 Telephone: 514-871-7872 Email: MarketOps@tmx.com