November 6, 2019

TO: OPRA Multicast Data Subscribers

SUBJECT: OPRA Failover Testing to Secondary Data Center: Reminder and Schedule for 2020

Failover Testing:

SIAC will be conducting failover testing with the OPRA exchanges on Saturday, December 7, 2019, from 9:00 am - 11:30 am ET. All OPRA multicast Data Subscribers are invited to participate.

Failover Test Details:

The failover to the secondary data center can occur at any time during the 9:00 am - 11:30 am ET time window, to simulate an unexpected real-time event requiring a failover. Participating exchanges will continue to generate test data which will be disseminated over the production multicast lines sourced from the secondary data center.

Upon failover to the secondary data center OPRA Data Subscribers will see:

<table>
<thead>
<tr>
<th>OPRA Failover Messaging Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category H, Type K, Reset Multicast Line Sequence Number Control messages</td>
</tr>
<tr>
<td>Category H, Type P, Disaster Recovery Data Center Activation Control messages</td>
</tr>
<tr>
<td>Zero quotes for all securities</td>
</tr>
<tr>
<td>OPRA trades and quotes after the exchanges fail over</td>
</tr>
</tbody>
</table>
2020 Quarterly Failover Test Schedule

- Sat 4/25/20: SIP Failover / MWCB Level 1/2 Test #1
- Sat 6/20/20: MWCB Level 1/2/3 & Day 2 Verification Test
- Sat 8/22/20: SIP Failover / MWCB Level 1/2 Test #2
- Sat 12/5/20: SIP Failover / MWCB Level 1/2 Test #3

Testing Coordination:

To coordinate testing, and to provide verbal or written confirmation of testing (as required of all Data Subscribers), please register as follows:

- E-mail your name, organization name, phone number to: CQS-CTS-OPRA@siac.com

Indirect Data Subscribers must contact their service provider to coordinate testing.

Documentation:

Please reference the latest OPRA Output Multicast Specifications which may be obtained at: www.opraplan.com.