

ATS-N/CA: Part II: Activities of the Broker-Dealer Operator and its Affiliates

Item 6: Activities of Service Providers

a. Does any employee of the Broker-Dealer Operator or its Affiliate that services both the operations of the NMS Stock ATS and any other business unit or any Affiliate of the Broker-Dealer Operator ("shared employee") have access to confidential trading information on the NMS Stock ATS?

•Yes ☐No

If yes, identify the business unit, Affiliate, or both that the shared employee services, and provide a summary of the role and responsibilities of the shared employee at the ATS and the business unit, Affiliate, or both that the shared employee services.

TMX Group Limited is the ultimate parent company of TMX Alpha US, LLC. TMX Group Limited operates the premier stock exchanges in Canada, including the Toronto Stock Exchange and Montreal Exchange. TMX Alpha US, LLC has a Managing Director and Chief Compliance Officer ("CCO") who are also both employees of TSX, Inc., which is a subsidiary of TMX Group Limited. The Managing Director's roles at both TMX Group Limited and TMX Alpha US, LLC focus on market structure analysis and product design. The CCO's role at TMX Group Limited is focused on legal and regulatory compliance in regards to the Canadian stock exchanges. The CCO's responsibilities with TMX Alpha US, LLC entail ensuring the ATS's adherence to regulatory requirements, mitigating compliance risks, and overseeing compliance programs. Additionally, ~~TMX Alpha US, LLC's Chief Financial Officer ("CFO") and~~ has contracted with Master Compliance LLC ("Master Compliance") for an individual to provide services as TMX Alpha, US LLC's Financial Operations Principal ("FinOP") ~~is the CFO of VettaFi LLC, an affiliate of TMX Alpha US, LLC. As CFO, she is responsible for providing leadership to TMX Alpha US, LLC and VettaFi LLC, as well as overseeing their financial operations.~~ TMX Alpha US, LLC's aforementioned Managing Director, and CCO, as well as the and FinOP ~~CFO~~ each have access to Confidential Trading Information (as that term is defined in Part II, Item 7.a, and discussed further in Part II, Item 7.d).

TSX US Inc., TSX Inc., VettaFi LLC, and Montreal Exchange, Inc., are affiliates of TMX Alpha US, LLC. (collectively, the "Affiliates"). TMX Alpha US, LLC has entered into Intercompany Services Agreements with TSX US Inc., TSX Inc., and VettaFi LLC, whereby certain employees of these Affiliates (collectively, "Shared Employees") provide services to TMX Alpha US, LLC. TMX Alpha US, LLC has also entered into a Software License Agreement with Montreal Exchange,

	Inc., in which TMX Alpha US, LLC licenses the trading technology software utilized by AlphaX US. The services provided to TMX Alpha US, LLC by TSX US Inc. involve use of certain Shared Employees, and contribution to their salaries. The Shared Employees provided by TSX US Inc. to TMX Alpha US, LLC dedicate 100% of their time to TMX Alpha US, LLC. The services provided by Shared Employees of TSX Inc. include human resources, finance, internal audit, legal, compliance, facilities, corporate communications, governance information technology, enterprise risk management, integrated operations, and project-based assistance. The services provided by VettaFi, LLC involve providing accounting and finance support services and services of TMX Alpha US, LLC's FinOP. The services provided by Shared Employees of Montreal Exchange, Inc. include licensing to TMX Alpha US, LLC the trading technology software utilized by AlphaX US. Please refer to Part II, Item 7.d for additional information regarding the roles and responsibilities of Shared Employees. As a result of the Affiliate agreements, some of the Shared Employees will have access to Confidential Trading Information on AlphaX US. However, such Shared Employees only have access to the Confidential Trading Information created or maintained by AlphaX US necessary for them to provide services to TMX Alpha US, LLC. In such instances, the Shared Employees operate strictly in accordance with the services provided by their applicable agreements with TMX Alpha US, LLC, and otherwise in accordance with applicable regulatory considerations. Other than in connection with the provision of services under each applicable Intercompany Services Agreement or the Software Licensing Agreement, no Affiliate of TMX Alpha US, LLC, and no systems operated by Affiliates of TMX Alpha US, LLC that are not for the benefit of TMX Alpha US, LLC, have direct or indirect access to AlphaX US or the Confidential Trading Information available therein.
b. Does any entity, other than the Broker-Dealer Operator, support the services or functionalities of the NMS Stock ATS ("service provider") that are required to be explained in Part III of this form?	☒ Yes ☐ No
If yes, both identify the service provider and provide a summary of the role and responsibilities of	As noted in Part II, Item 6.a, TMX Alpha US, LLC has entered into agreements with certain of its Affiliates. Specifically, TMX Alpha US, LLC has entered into Intercompany Services Agreements with TSX US Inc., TSX Inc., and VettaFi LLC to

the service provider in response to the applicable Item number in Part III of this form, as required. List the applicable Item number here. If there are services or functionalities that are not applicable to Part III, identify the service provider, the services and functionalities, and also provide a summary of the role and responsibilities of the service provider here.	access various services from Shared Employees. As described further in Part III, Item 7.a., the technology support for AlphaX US's matching engine is provided pursuant to the Intercompany Services Agreement between TMX Alpha US, LLC and TSX Inc. TMX Alpha US, LLC has also entered into a Software License Agreement with Montreal Exchange, Inc., whereby that Affiliate provides the AlphaX US trading technology software detailed in Part III, Item 11. Pursuant to each of these agreements, the Affiliates support the services and functionalities of AlphaX US. <u>As noted in Part II, Item 6a, TMX Alpha US, LLC has contracted with Master Compliance for an individual to provide services as a FinOP (the "FinOP Services"). The FinOP is therefore a Registered Representative of TMX Alpha US, LLC, but not an employee.</u> In addition to the foregoing, TMX Alpha US, LLC has entered into agreements with the following technology vendors who each support the services and functionalities of AlphaX US: TMX Alpha US, LLC has entered into an agreement with Instinet, LLC ("Instinet") to provide the clearance and settlement services described in Part III, Item 22. As described in Part III, Item 7.a, the data center used by AlphaX US is provided by Equinix, Inc. ("Equinix"). Specifically, Equinix operates the NY5 Data Center ("NY5") in Secaucus, N.J., where the AlphaX US matching engine is located. Participant broker-dealers connect to AlphaX US via the cross-connects managed by Equinix. AlphaX US leases servers from Amazon Web Services, Inc. (AWS), which host the matching engine. Please refer to Part III, Item 11 for additional details regarding the matching engine. TMX Alpha US, LLC has entered into an agreement with S3 Matching Technologies LP ("S3") to provide the Consolidated Audit Trail ("CAT") reporting and surveillance services described in Part II, Item 7.d. As further described in Part III, Item 21, TMX Alpha US, LLC has engaged Nasdaq, Inc. ("NASDAQ") as its trade reporting facility ("TRF"). TMX Alpha US, LLC has entered into an agreement with Exchange Data International Limited ("EDI") to provide US equity security reference data files, as described in Part III, Item 23.a.
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	TMX Alpha US, LLC performs risk-based reviews of its third-party vendor relationships at the time of engagement, and periodically thereafter. The initial reviews include consideration of the service levels to be performed, potential strategic risk, and the security and confidentiality controls of the vendors. During periodic reviews, Registered Principals of TMX Alpha US, LLC review the security and confidentiality controls of TMX Alpha US, LLC's critical vendors.
Item 7: Protection of Confidential Trading Information	
a. Describe the written safeguards and written procedures to protect the confidential trading information of Subscribers to the NMS Stock ATS, including: i. written standards controlling employees of the ATS that trade for employees' accounts; and ii. written oversight procedures to ensure that the safeguards and procedures described above are implemented and followed.	Only FINRA registered broker-dealers are Participants to AlphaX US. The Confidential Trading Information of all Participants is maintained in electronic form and protected by password entry. Confidential Trading information "Confidential Trading Information" means (1) any real-time information regarding a Participant's orders, executions, and/or routing preferences; and (2) a Participant's post-trade order and execution metrics or statistics, and/or routing preferences. Confidential Trading Information may be available in real-time (via the AlphaX US system directly) or post-trade (via other systems/tools or stored data) or both. Pursuant to Affiliate Intercompany Services Agreements, Shared Employees are authorized to access real-time and post-trade Confidential Trading Information when it is necessary to support AlphaX US, including in the following instances: 1) Market operations; 2) Platform metrics and analytics; 3) Business and technological development and support; 4) System testing; and 5) Regulatory reviews, testing, investigations, surveillances, and reporting. TMX Alpha US, LLC strictly limits access to live AlphaX US production networks, databases, servers, applications, and data to those employees and Shared Employees who must have such access to perform their jobs, and further limits access only to the items necessary for their function. Secured access is maintained both physically and non-physically, as described below. Physical Access Restrictions to Confidential Trading Information Shared Employees <u>and the FinOp</u> responsible for the daily operation of AlphaX US, and who have access to the AlphaX

	US order book, are largely in separate physical locations from TMX Alpha US, LLC employees. There are also physical information barriers in place to separate AlphaX US from Affiliate systems. Servers and related infrastructure are located at Equinix NY5, and physical access to NY5 is limited to key personnel. Access to the building is granted to individuals with valid government issued photo identification. NY5 is subject to high security standards, including video surveillance and 24x7 security. In addition, access to the cages where the servers and related infrastructure operated by TMX Alpha US, LLC are located can only be accessed by keycard and palm print authorization. Physical access to the TMX Alpha US, LLC offices is also restricted by keycard access. Non-Physical Access Restrictions to Confidential Trading Information Non-physical access to servers / desktops / laptops requires multi-factor authentication including passwords and authentication applications. All passwords must be actively maintained, and must follow password complexity and password aging rules. Failure to maintain an active password results in an inability to access the servers and related infrastructure via non-physical access. In addition to the use of multi-factor authentication, the servers and files accessible by Shared Employees are further restricted by each Shared Employee's credentials, and access is granted only to information needed to perform their specific services pursuant to the applicable Affiliate agreement. TMX Alpha US, LLC utilizes electronic file storage systems for business records, documents, and Confidential Trading Information. Based upon the use case, the storage system may be cloud based, local, or a hybrid. Access to the files is limited to employees and Shared Employees who are authorized to view the Confidential Trading Information, and only to the extent that such access is necessary to the provision of services. TMX Alpha US, LLC provides post-trade Confidential Trading Information to certain third-party vendors to aid it in the operation of its business, including in respect of clearing and settlement, trade surveillance, and trade reporting. All third-party vendors with access to Confidential Trading Information are subject to a risk due diligence process. Please refer to Part II, Item 7.a for additional information on third-party vendors. Personal Trading Accounts
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	Employees are required to provide notification of outside brokerage accounts within 30 days of employment. Employees are also required to provide their account statements and trade notifications periodically. TMX Alpha US, LLC's Written Supervisory Procedures ("WSPs") set out policies and procedures regarding the required approvals related to employee trading accounts, as well as the prohibition from trading with material non-public information. The CCO conducts periodic reviews of employee accounts to ensure compliance with the WSPs regarding personal securities transactions. Annual certifications are also required as a reminder of, and to reinforce, these WSPs. Periodic Training All employees of TMX Alpha US, LLC and all Shared Employees must complete training, on an annual basis, related to cybersecurity awareness, conflicts of interest, and confidentiality. In addition, TMX Group Limited, the ultimate parent company of TMX Alpha US, LLC, also operates a continuous, organization-wide security awareness program that includes regular testing related to phishing and social engineering. Periodic Review of Access Only those persons who are so authorized may have access to records that contain sensitive data, or could compromise the confidentiality of a Participant. Any individual added or removed from access to Confidential Trading Information must be approved by a Registered Principal of TMX Alpha US, LLC. A review of individuals with access will then be performed by a Registered Principal at least every six months and adjusted as necessary. Passwords are required to be changed periodically, and are disabled for terminated individuals and those no longer requiring access to AlphaX US. Computer systems for TMX Alpha US, LLC are protected by endpoint detection and response and anti-virus software, and laptop hard drives and USB drives are encrypted. Third-Party Vendor Agreements As noted in Part II, Item 6.a, TMX Alpha US, LLC has Intercompany Services Agreements in place with TSX US Inc., TSX Inc., and VettaFi LLC, and a Software License Agreement with Montreal Exchange, Inc. As noted in Part II, Item 6.a., TMX Alpha US, LLC also has agreements in place with third-party vendors offering services to AlphaX US. All of these agreements include confidentiality provisions that protect Confidential Trading Information from potential misuse by
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	Shared Employees and third-party vendors. Furthermore, Confidential Trading Information is not accessible by other systems except for the legitimate business purposes related to AlphaX US. Shared Employees and third-party vendors may only access AlphaX US and Confidential Trading Information when strictly necessary to fulfill the terms of their applicable Affiliate and vendor agreements.
d. Provide a summary of the roles and responsibilities of any Persons that have access to confidential trading information, the confidential trading information that is accessible by them, and the basis for the access.	The TMX Alpha US, LLC's Management Team, comprised of the President, CCO, and FinOPCFQ, have oversight responsibilities that require access to both real-time and post-trade Confidential Trading Information. TMX Alpha US, LLC's President and Sales, Product, and Operations Departments require access to both real-time and post-trade Confidential Trading Information for trade support, customization, Participant education, and market oversight. These employees are the first point of contact for intraday Participant and trade support. Their access to both real-time and post-trade Confidential Trading Information is essential to providing Participants with fast and efficient support while resolving any issues. The operation of AlphaX US is monitored in real-time by the Market Operations Team to ensure the functioning of the trading system is in line with the AlphaX US operating procedures and securities trading rules and regulations. Authorized Market Operations personnel monitor trading system status, latencies, data outputs, potential quote issues, as well as system load and capacity metrics. As described in Part II, Item 6.a above, TMX Alpha US, LLC's Affiliates provide the services of Shared Employees pursuant to applicable Intercompany Services Agreements. The Shared Employees who have access to certain Confidential Trading Information necessary to perform their services under applicable Affiliate agreements include individuals involved in the following roles and responsibilities: 1. Legal (who provide legal advice, and may need and have access to all forms of Confidential Trading Information in order to perform their legal advisory duties), provided by TSX Inc.; 2. Finance, Accounting, and Internal Audit (who provide support for invoicing, accounts payable, financial reconciliation, and audits, and may need post-trade Confidential Trading Information), provided by Vettafi, LLC and TSX Inc.; 3. Information Technology (who provide technical, testing, and development support, and may need and have access to all forms of Confidential Trading Information in order to perform their duties), provided by Montreal Exchange, Inc.; 4. Enterprise Risk Management (who provide and develop methods and processes to manage risk, and may need and

	have access to all forms of Confidential Trading Information in order to perform their duties), provided by TSX Inc.; and 5. Market Operations and Business Intelligence (who provide AlphaX US support and platform analytics, and may need and have access to all forms of Confidential Trading Information in order to perform their duties), provided by TSX Inc. 6. Compliance (who is responsible for the broker-dealer operator's compliance program, and has access to all forms of Confidential Trading Information for purposes of Participant onboarding and trade surveillance, as well as when assisting with regulatory inquiries and examinations), provided by TSX Inc. Each of the Shared Employees are subject to, and bound by, internal policies regarding confidentiality as well as the confidentiality provisions in the applicable Intercompany Services Agreements. TMX Alpha US, LLC has contracted the following third-party vendors who have access to Confidential Trading Information: 1. Instinet provides clearance and settlement services, and needs and has access to Confidential Trading Information related to real-time order executions, in order to perform clearing and settlement services; 2. S3 provides CAT reporting and surveillance services, and has access to all forms of Confidential Trading Information, for the purposes of CAT reporting and trade surveillance services; and 3. NASDAQ who will act as AlphaX US's TRF, will have access to all forms of Confidential Trading Information in order to perform its duties). <u>4. the FinOP is a consultant that has access to all forms of Confidential Trading Information for purposes of providing the FinOP Services.</u> Each of the above third-party vendors is bound by the confidentiality provisions in its applicable agreement with TMX Alpha US, LLC.
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