DISCIPLINARY DECISION
Cboe BZX Exchange, Inc.
Star No. 20170565048-02/File No. USRI-7375-05
RBC Capital Markets, LLC

Pursuant to Exchange Rule 8.3, attached to and incorporated as part of this Decision is a Letter of Consent.

Applicable Rules

- BZX Rules 5.1 – Written Procedures and 3.2 – Violations Prohibited.
- Rule 15c3-5 – Risk Management Controls for Brokers or Dealers with Market Access, promulgated under the Securities Exchange Act of 1934, as amended.

Sanction

- A censure and a monetary fine in the amount of $45,000.

Effective Date

March 2, 2021

/s/ Greg Hoogasian

Greg Hoogasian, CRO, SVP

Cboe BZX Exchange, Inc.
LETTER OF CONSENT
Star No. 20170565048021
File No. USRI-7375-05

In the Matter of:

RBC Capital Markets, LLC
3 World Financial Center
200 Vesey St.
New York, NY 10281

Respondent

Pursuant to the provisions of Cboe BZX Exchange, Inc. ("BZX" or the "Exchange") Rule 8.3, RBC Capital Markets, LLC ("RBC" or the "Firm") submits this Letter of Consent for the purposes of proposing a settlement of the alleged rule violations described below.

The Firm neither admits nor denies the findings for Star No. 2017056504802/File No. USRI-7375-05 and the stipulation of facts and findings described herein do not constitute such an admission.

BACKGROUND

1. During all relevant periods herein, the Firm was a registered Broker-Dealer and was an Exchange Member registered to conduct business on the Exchange. The Firm's registrations remain in effect.

2. This matter originated as a result of four erroneous orders the Firm entered on BZX on three trade dates from December 19, 2016 through December 21, 2018 (the "review period"). As a result, Exchange Regulatory Staff and FINRA's Trading Analysis group conducted an investigation of the Firm's risk management controls and supervisory procedures relating to market access.[2]

[1] Including STAR No. 20190625582.

[2] In addition to the Exchange, the resulting investigation was conducted on behalf of Cboe BYX Exchange, Inc. ("BYX"), Cboe EDGA Exchange, Inc. ("EDGA"), Cboe EDGX Exchange, Inc. ("EDGX"), and The Nasdaq Stock Market LLC ("Nasdaq").

VIOLATIVE CONDUCT

Applicable Rules

3. During all relevant periods herein, the following rules were in full force and effect: Rule 15c3-5 – Risk Management Controls for Brokers or Dealers with Market Access, promulgated under the Securities Exchange Act of 1934 ("Rule 15c3-5" or the "Market Access Rule") and Exchange Rules 3.2 – Violations Prohibited and 5.1 – Written Procedures.

4. Rule 15c3-5(b) stated that "a broker-dealer with market access, or that provides a customer or any other person with access to an exchange or alternative trading system through use of its market participant identifier or otherwise, shall establish, document, and maintain a system of risk management controls and supervisory procedures reasonably designed to manage the financial, regulatory, and other risks of this business activity."

5. Rule 15c3-5(c)(1)(ii) required that such "risk management controls and supervisory procedures be reasonably designed to systematically limit the financial exposure of the broker or dealer that could arise as a result of market access, including being reasonably designed to: . . . (ii) [p]revent the entry of erroneous orders, by rejecting orders that exceed appropriate price or size parameters, on an order-by-order basis or over a short period of time, or that indicate duplicative orders."

6. Exchange Rule 3.2 stated "[n]o Member shall engage in conduct in violation of the [Securities Exchange Act of 1934], the rules or regulations thereunder, the By-Laws, Exchange Rules or any policy or written interpretation of the By-Laws or Exchange Rules by the Board or an appropriate Exchange committee" and that "[e]very Member shall so supervise persons associated with the Member as to assure compliance with those requirements."

7. Exchange Rule 5.1 required Members to "establish, maintain and enforce written procedures which will enable it to supervise properly the activities of associated persons of the Member and to assure their compliance with applicable securities laws, rules, regulations and statements of policy promulgated thereunder, with the rules of the designated self-regulatory organization, where appropriate, and with Exchange Rules."

Market Access Rule and Exchange Rule Violations

Cash Desk

8. On December 21, 2018, a Cash Desk trader inadvertently routed a 45,851-share order in a security to one of the Firm's aggressive algorithmic trading strategies. The order, which was intended to be worked over the course of the day, made up approximately 10% of the Average Daily Volume ("ADV") in the security during

the 20 days prior to December 21, 2018 (460,790 shares/day avg.). The notional value of the order was approximately $3,760,000. The Firm worked the order by entering 292 bids with increasing limit prices ranging from $82.34 to $86.58 on BZX, BYX, EDGX and EDGA during a 569-millisecond period with an aggregate volume of 303,000 shares which represented 66% of the security's 20-day ADV. Ultimately, 7,685 shares were executed on BZX, BYX, EDGX, and EDGA. The market increased $4.01 or approximately 5% as a result.

9. The Cash Desk had the following pre-trade, single-order (*i.e.*, order-by-order) controls in place for the subject symbols during the review period: (1) maximum quantity; (2) maximum notional value; (3) maximum ADV; and (4) limit price away from prior market price.

10. During the review period, the Cash Desk's single-order maximum quantity control threshold was set at a level too high to be reasonably designed to prevent erroneously sized orders from being entered into the market. Specifically, the control threshold was greater than the maximum allowable single-order size of 999,999 shares on BZX's systems and the Firm had no documented rationale for exceeding BZX's single-order size threshold. The Cash Desk's single-order maximum quantity control, therefore, was not reasonably designed to prevent the entry of erroneous orders that exceeded appropriate size parameters on an order-by-order basis.

11. The Firm could not demonstrate that the Cash Desk's single-order maximum notional value and maximum ADV control thresholds were set at levels reasonably designed to prevent the entry of erroneous orders and that it conducted any analysis in setting the single-order maximum notional value and percent of ADV thresholds.

12. The Firm had written supervisory procedures listing factors that Firm supervisors were required to consider when implementing or amending the Cash Desk's erroneous order control thresholds described in paragraph 9. Those controls, however, could be temporarily amended or removed upon request. When a Cash Desk order encountered an erroneous order control threshold that prevented entry of that order, desk personnel could request that the desk's technology staff temporarily amend or remove the control threshold so that the order could reach the market. The Firm's procedures, however, did not require that those with authority to temporarily amend or remove control thresholds consider any factors when making such decisions or review and document the reason for the requested change. The Firm's procedures allowing the temporary amendment or removal of erroneous order controls, therefore, were not reasonably designed. Furthermore, although supervisors reviewed all temporary changes to Cash Desk control thresholds on T+1, the review was not reasonable because it did not consider the rationale for

changing the threshold for each order and whether it was consistent with factors documented in the Firm's procedures.[3]

13. The Cash Desk also had a control intended to prevent the entry of potentially erroneous orders over a short period of time. The control utilized three of the single-order controls and threshold levels discussed above—maximum quantity, maximum notional value, and maximum ADV—and prevented additional orders in a symbol for 30 seconds on the same side, if an order or group of orders (in the aggregate) in that symbol sent to one market surpassed all three of these control thresholds within 30 seconds. However, as discussed above, during the review period, the threshold level for the maximum quantity control was unreasonably high, and the Firm could not demonstrate that the Cash Desk's maximum notional value and maximum ADV controls were reasonable. The Cash Desk's short period of time control, therefore, was not reasonably designed to prevent the entry of erroneous orders, by rejecting orders that exceed appropriate price or size parameters, over a short period of time, or that indicate duplicative orders.

<u>EST Desk</u>

14. On December 19, 2016, the Firm's EST Desk received a 41,809-share market order from an institutional customer to buy a security. The order was erroneously sent to the EST Desk. The customer had intended to send the order to the Firm's Cash Desk for handling by a trader. Upon receipt, the Firm's proprietary order management system routed the order to one of the Firm's algorithmic trading strategies in accordance with the customer's erroneous order instructions. This 41,809-share order made up approximately 20% of the security's ADV across 21 days in December 2016 (207,295 shares/day avg.). The Firm worked the order by entering 161 bids over 250 milliseconds with limit prices ranging from $18.75 to $21.80 on BZX, BYX, EDGX, and EDGA for an aggregate volume of 192,000 shares which represented 93% of the security's 20-day ADV. Within one second of receiving the order, 38,486 of 41,809 shares were executed. The market price of the security increased $2.10 or approximately 11% as a result.

15. The EST Desk's single-order controls were configured based on the customer's overall assets under management ("AUM") and the level of aggressiveness of the algorithm selected to route the order to the market. For the erroneous orders discussed in paragraph 14, the following pre-trade, single-order controls were in place for all symbols: (1) maximum quantity; (2) maximum notional value; (3) maximum ADV limit that varied based on order type/price; and (4) limit price away from prior market price.

16. The EST Desk's pre-trade, single-order maximum quantity and maximum notional value control thresholds were set at levels too high to be reasonably designed to prevent erroneous orders from being entered into the market. Regarding the

[3] A T+1 review on its own does not satisfy Rule 15c3-5 because it would not prevent the entry of erroneous orders.

quantity control, BZX's own limit for order size quantity of 999,999 shares was lower than the Firm's limit and the Firm had no documented rationale for exceeding BZX's single-order size threshold. Therefore, the EST Desk's maximum quantity control was not reasonably designed to prevent the entry of erroneous orders that exceeded appropriate price or size parameters on an order-by-order basis.

17. Furthermore, the Firm could not demonstrate that the EST Desk single-order maximum notional value and maximum ADV control thresholds were set at levels reasonably designed to prevent the entry of erroneous orders. The Firm could not provide evidence that it conducted any analysis aside from reviewing the customer's AUM in setting the single-order maximum notional value and percent of ADV thresholds for customers' trading activity through the EST Desk.

18. Depending on the EST Desk algorithm in use, certain erroneous order controls on the EST Desk, if triggered, would cause an order to be moved into a "staged" environment, where an EST Desk sales trader could review the order and release it to the market by clicking a pop-up window. This process was not reasonable because sales traders did not document their rationale for releasing such orders to the market, and the Firm had no written supervisory procedures describing the factors be considered when releasing staged orders. In addition, although supervisors conducted T+1 reviews of all EST Desk staged orders released to the market, the review was not reasonable because it did not consider the rationale for releasing each order and whether it was consistent with factors documented in the Firm's procedures.[4]

19. Additionally, the EST Desk erroneous order controls only considered price and size on an order-by-order basis. The Firm did not have a control that considered the price and size of multiple child orders over a short period of time. The lack of such a control permitted the execution of multiple erroneous child orders on December 19, 2016. While no single child order was unreasonably large or unreasonably aggressively priced, the aggregate effect of the erroneous child orders increased the market price approximately 11%.

20. The EST Desk also had a control intended to prevent potentially excessive or duplicative orders. However, the control was not reasonably designed to prevent the entry of erroneous excessive or duplicative orders because it paused additional orders for a set time and then automatically restarted sending orders.

<u>ETF LMM Desk</u>

21. The Firm's ETF LMM desk entered multiple erroneous orders in two ETF securities on October 1, 2018. The orders resulted from an error within the desk's internal pricing model, which it used to determine the prices of buy and sell quotations it published in the ETFs in which it registered as a market maker. The

[4] A T+1 review on its own does not satisfy Rule 15c3-5 because it would not prevent the entry of erroneous orders.

pricing error caused the desk's order management system to reference inaccurate dividend prices.

22. The pricing error led the ETF LMM Desk to enter orders with erroneous prices or quantities. In the first ETF security, in a 15-second period, the pricing error caused the desk to enter 208 bids at increasing limit prices ranging from $50.09 to $55.03 on BZX, EDGX, and EDGA for an aggregate volume of 1,085,000 shares, which represented 2,691% of the ETF's 20-day ADV. Seven of these erroneous orders, which ranged in size from 3,500 to 6,200 shares (9% to 16% of the ETF's ADV) and were priced at $55.03, executed for a total of 15,861 shares on BZX, EDGX, and EDGA. The market price increased $4.03 or approximately 8% as a result.

23. The desk entered additional erroneous orders to buy shares of a second ETF security in a three-second period as a result of the pricing error. In this ETF, the desk entered 193 bids at increasing limit prices ranging from $75.50 to $77.74 on BZX, EDGX, and EDGA for an aggregate volume of 305,700 shares, which represented 1,671% of the ETF's 20-day ADV. Thirty-two of these erroneous orders, which ranged in size from 600 to 2,000 shares and were priced from $75.50 to $77.74, executed for a total of 7,804 shares on BZX, EDGX, and EDGA. The market price increased $2.24 or approximately 3% as a result.

24. The ETF LMM Desk had the following pre-trade, single-order controls in place for the subject securities on October 1, 2018: (1) maximum quantity; (2) maximum notional value; (3) maximum ADV; and (4) limit price away from prior market price.

25. The ETF LMM Desk's single-order maximum quantity, maximum notional value, and price limit control thresholds during the review period were set at levels too high to be reasonably designed to prevent erroneous orders from being entered into the market. Therefore, the controls were not reasonably designed to prevent the entry of erroneous orders that exceeded appropriate price or size parameters on an order-by-order basis.

26. The Firm could not demonstrate that the ETF LMM Desk's single-order maximum quantity, maximum notional value, and maximum ADV control thresholds were set to levels reasonably designed to prevent the entry of erroneous orders. The Firm could not provide any evidence that it that it conducted any analysis in setting the single-order maximum quantity, maximum notional value, and maximum ADV control thresholds on the ETF LMM Desk.

27. Additionally, the ETF LMM Desk erroneous order controls only considered price and size on an order-by-order basis. The controls did not consider price and size of multiple orders over a short period of time. The lack of an erroneous order control that considered the price and size of orders over a short period of time permitted the execution of multiple erroneous orders.

28. Further, the ETF LMM Desk had a control focused on preventing a large number (or "burst") of orders from being entered in a short period of time. The desk's burst rate thresholds were not reasonably related to the desk's order entry activity, however. On October 1, 2018, the desk's maximum new order rate per symbol per second control, the maximum new order rate (overall) per second control, and the maximum duplicate order count per second controls were all set at levels much higher than the Firm's actual average order entry rate. The burst control, therefore, was not reasonably designed to prevent the entry of erroneous excessive or duplicative orders over a short period of time.

Violations

29. The acts, practices, and conduct described in paragraphs 8 through 28, violated Rule 15c3-5(b) and (c)(1)(ii) and BZX Rules 3.2 and 5.1 in that the Firm's financial risk management controls and supervisory procedures were not reasonably designed to prevent the entry of erroneous orders, by rejecting orders that exceed appropriate price or size parameters, on an order-by-order basis or over a short period of time, or that indicate duplicative orders.

SANCTIONS

30. The Firm does not have any prior relevant disciplinary history specifically related to its compliance with Rule 15c3-5 or supervision thereof.

31. In light of the alleged rule violations described above, the Firm consents to the imposition of the following sanctions:
   a. A censure; and
   b. A monetary fine of $45,000.

If this Letter of Consent is accepted, the Firm acknowledges that it shall be bound by all terms, conditions, representations and acknowledgements of this Letter of Consent, and, in accordance with the provisions of Exchange Rule 8.3, waives the right to review or to defend against any of these allegations in a disciplinary hearing before a Hearing Panel. The Firm further waives the right to appeal any such decision to the Board of Directors, the U.S. Securities and Exchange Commission, a U.S. Federal District Court, or a U.S. Court of Appeals.

The Firm waives any right to claim bias or prejudgment of the Chief Regulatory Officer ("CRO") in connection with the CRO's participation in discussions regarding the terms and conditions of this Letter of Consent, or other consideration of this Letter of Consent, including acceptance or rejection of this Letter of Consent. The Firm further waives any claim that a person violated the ex parte prohibitions of Exchange Rule 8.16, in connection with such person's participation in discussions regarding the terms and conditions of this Letter of Consent, or other consideration of this Letter of Consent, including its acceptance or rejection.

The Firm agrees to pay the monetary sanction(s) upon notice that this Letter of Consent has been accepted and that such payment(s) are due and payable. The Firm specifically and voluntarily waives any right to claim that it is unable to pay, now or at any time hereafter, the monetary sanction(s) imposed in this matter.

The Firm understands that submission of this Letter of Consent is voluntary and will not resolve this matter unless and until it has been reviewed and accepted by the CRO, pursuant to Exchange Rule 8.3. If the Letter of Consent is not accepted, it will not be used as evidence to prove any of the allegations against the Firm.

The Firm understands and acknowledges that acceptance of this Letter of Consent will become part of its disciplinary record and may be considered in any future actions brought by Cboe or any other regulator against the Firm. The Letter of Consent will be published on a website maintained by the Exchange in accordance with Exchange Rule 8.18.

The Firm understands that it may not deny the charges or make any statement that is inconsistent with the Letter of Consent. The Firm may attach a Corrective Action Statement to this Letter of Consent that is a statement of demonstrable corrective steps taken to prevent future misconduct. Any such statement does not constitute factual or legal findings by the Exchange, nor does it reflect the views of the Exchange or its staff.

The undersigned, on behalf of the Firm, certifies that a person duly authorized to act on its behalf has read and understands all of the provisions of this Letter of Consent and has been given a full opportunity to ask questions about it; that it has agreed to the Letter of Consent's provisions voluntarily; and that no offer, threat, inducement, or promise of any kind, other than the terms set forth herein, has been made to induce the Firm to submit it.

Date: February 22, 2021

RBC Capital Markets, LLC

By: [redacted]

Name: Ryan Taylor

Title: Chief Compliance Officer