



### III.

On the basis of this Order and Respondents' Offer, the Commission finds that:

#### A. Respondents

1. EDGA is registered with the Commission as a national securities exchange pursuant to Section 6(a) of the Exchange Act and is a self-regulatory organization ("SRO"). Since July 2010, EDGA has operated as an all-electronic exchange. EDGA is located in Jersey City, New Jersey and currently trades U.S. equity securities.

2. EDGX is registered with the Commission as a national securities exchange pursuant to Section 6(a) of the Exchange Act and is an SRO. Since July 2010, EDGX has operated as an all-electronic exchange. EDGX is located in Jersey City, New Jersey and currently trades U.S. equity securities.

3. DE Route is a broker-dealer registered with the Commission pursuant to Section 15 of the Exchange Act. DE Route is both a facility of and the affiliated routing broker of EDGA and EDGX. DE Route is also a member of FINRA and the Exchanges. DE Route is located in Jersey City, New Jersey.

#### B. Summary

4. The National Market System is among the pillars of our economy and provides the foundation for investor confidence in the integrity and orderliness of our capital markets. National securities exchanges and the electronic quoting, routing, and execution platforms through which they operate are critical elements of the National Market System. To gain Commission approval to become registered as an exchange, an exchange operator must not only represent that it is able to meet its regulatory obligations but also demonstrate that it is organized to do so and has the capacity to carry out the purposes of the statutes, rules, and regulations upon which its registration is conditioned. Given the systemic risk that can result from the failure of an exchange to comply with these requirements, the operation of a national securities exchange carries with it among the most significant regulatory compliance obligations that are expected of any market participant.

5. National securities exchanges are obligated to ensure that their order quoting, routing, and execution systems, compliance infrastructures, and communications platforms are developed, maintained, and governed to avoid material failures, outages, and other significant contingencies that could pose material risk to the National Market System and to the public interest. While some system outages inevitably will occur and not every outage is a violation of the federal securities laws, such outages, particularly when combined with significant other deficiencies in an exchange's systems, processes, and controls, can present risks that, left unremediated, could cause harm to investors and other market participants. A national securities exchange must invest appropriate resources necessary to ensure the strength and integrity of its systems, processes, and controls, to comply with its own Commission-approved rules, to provide for adequate backup and failover systems, to prevent or react appropriately to significant system

outages and failures, and, ultimately, to ensure an adequate governance and oversight structure necessary for quality assurance, continuous improvement, and process measurement, monitoring, and control.

6. This matter concerns the failure by EDGX, EDGA, and DE Route to comply with certain provisions of the Exchange Act, the rules and regulations thereunder, and each Exchange's own rules. EDGA violated Sections 19(b) and 19(g) of the Exchange Act, EDGX violated Sections 19(b) and 19(g) of the Exchange Act and Rule 602(a)(3) thereunder, and DE Route caused violations of Section 19(g) of the Exchange Act and violated Rules 200(g) and 203(b) thereunder. These violations occurred against the backdrop of weaknesses in Respondents' systems, processes, and controls.

### C. Discussion

#### Facts

7. On May 7, 2009, EDGA and EDGX submitted to the Commission Form 1 applications seeking registration as national securities exchanges under Section 6 of the Exchange Act. When the Exchanges applied for registration as national securities exchanges, each was operating as a separate trading platform of DECN,<sup>1</sup> an alternative trading system ("ATS").<sup>2</sup>

8. In an order dated March 12, 2010 (the "Approval Order"), the Commission granted the applications of EDGA and EDGX for registration as national securities exchanges.<sup>3</sup> The Approval Order that granted the Exchanges' applications for registration conditioned their operation upon the satisfaction of several requirements, including that the Exchanges have adequate procedures and programs in place to effectively regulate the Exchanges, and, as noted in Commission Automation Review Policy ("ARP") guidelines, to effectively process trades and maintain the confidentiality, integrity, and availability of the Exchanges' systems.<sup>4</sup>

9. As required by the Approval Order, the Exchanges sent letters to the Commission's Office of Compliance Inspections and Examinations ("OCIE") and the Division of Trading and Markets ("TM") on June 18 and 28, 2010, respectively, representing that each Exchange had adequate procedures and programs in place to effectively regulate the Exchange, and, as noted in Commission ARP guidelines, to process trades and maintain the confidentiality, integrity, and availability of the

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<sup>1</sup> Direct Edge ECN, LLC was formed in the State of Delaware on April 19, 2005.

<sup>2</sup> Rules 300–303 under the Exchange Act, 17 C.F.R. §§ 242.300–303.

<sup>3</sup> See In the Matter of the Applications of EDGX Exchange, Inc., and EDGA Exchange, Inc. for Registration as National Securities Exchanges: Findings, Opinion, and Order of the Commission, Exchange Act Release No. 34-61698 (Mar. 12, 2010), 75 FR 13151 (Mar. 18, 2010) (File Nos. 10-194 and 10-196).

<sup>4</sup> *Id.* at 13167.

Exchange's systems. Each Exchange commenced operating as a national securities exchange in July 2010.

10. Following EDGA's and EDGX's commencement of operations as national securities exchanges, DECN ceased operations as an ATS and began to operate as a facility of the Exchanges doing business as DE Route. The Commission approved rules permitting DE Route to provide outbound order routing for the Exchanges and inbound order routing to EDGX from EDGA and to EDGA from EDGX, subject to certain conditions.<sup>5</sup> In particular, the rules stated that DE Route would not engage in any business other than (a) its outbound router function, (b) its inbound router function, and (c) any other activities it may engage in as approved by the Commission.<sup>6</sup> Until 2011, neither Exchange had sought Commission approval to expand the activities of DE Route, and the Commission had not approved any other DE Route activities.

### **The November 8, 2010 Systems Incident**

11. Prior to November 8, 2010, EDGA and EDGX made certain code changes related to the processing of customer orders. The code changes addressed compliance with amendments to Regulation SHO (prior to the extension of the compliance date for those amendments) as well as several enhancements. While certain code changes were subjected to testing prior to being rolled out on November 8, 2010, the code changes at issue were not subjected to testing. When the markets opened on November 8, 2010, the untested code changes caused an operational error whereby EDGA and EDGX systems increased the number of shares in orders submitted by three members, which resulted in these orders being executed for more than their intended amount. The Exchanges instructed the affected members to trade out of the resulting overfilled positions and to submit a claim for any losses to the Exchanges. One member traded out of the overfilled executions and submitted a claim for a loss in the amount of \$105,000. The other two members refused to assume the overfilled positions and, as a result, EDGA and EDGX decided that DE Route would assume and liquidate the overfilled positions of the two members through its error account. In addition to the positions assumed in response to the November 8, 2010 operational error, Respondents assumed positions in other securities to facilitate the resolution of overfilled or error positions that separately arose from July through November 2010.

12. The assumption of positions to facilitate the resolution of overfilled or error positions was not permitted under the rules of the Exchanges, and the Exchanges failed to file proposed rule amendments permitting them to assume member positions. The use of the DE Route error account to engage in trading activity was not permitted by the Exchanges' rules, and neither Exchange had sought Commission approval to expand the activities of DE Route beyond those listed in paragraph 10 above. Section 19(g)(1) of the Exchange Act requires every exchange to comply with the provisions of the Exchange Act, the rules and regulations thereunder, and its own rules. Section 19(b)(1) of

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<sup>5</sup> *Id.* at 13165.

<sup>6</sup> EDGA Rules 2.11-12 and EDGX Rules 2.11-12.

the Exchange Act requires an exchange to file proposed rule changes with the Commission, and Rule 19b-4 thereunder provides that any “stated policy, practice or interpretation” of an exchange shall be deemed a “proposed rule change” unless “it is reasonably and fairly implied by an existing rule” of the exchange.

13. From November 8 through November 10, 2010, DE Route traded through its error account to unwind the November 8, 2010 positions. In attempting to liquidate these positions as quickly as practicable, DE Route engaged in short selling activity. DE Route did not mark its short orders as short or marked them long and did not locate or document the availability of securities to borrow prior to effecting these short sales. Regulation SHO requires broker dealers to mark orders in all equity securities “long” or “short” in accordance with Rule 200(g) and also requires executing broker-dealers to meet the locate requirement under Rule 203(b) prior to effecting short sales. See 17 C.F.R. §§ 242.200(g), 203(b).

14. The November 8, 2010 operational error caused an estimated 27 million shares of excess trading for three members with a value of roughly \$773 million across approximately one thousand symbols. The Exchanges realized a net loss of approximately \$2.1 million in connection with the positions that were assumed and liquidated. Respondents did not discuss the operational error with Commission staff until after they were contacted by TM on November 10, 2010.

### **The April 13, 2011 Systems Incident**

15. On April 13, 2011, at approximately 3:19 p.m., an EDGX database administrator inadvertently entered a command that effectively disabled all other connections to EDGX’s production database, disrupting the Exchange’s ability to process incoming orders, modifications, and cancellations. This incident occurred, in part, due to levels of employee access to production systems inconsistent with the principle of “least privilege,” as well as a lack of visual differentiation between production and nonproduction environments.<sup>7</sup>

16. Immediately thereafter, Respondents’ personnel began receiving internal system alerts. At 3:23 p.m., reports to EDGX’s trade desk indicated that trades were not being reported to the Securities Information Processors (“SIP”), which publish market data to the public. Between 3:24 and 3:34 p.m., EDGX received at least eleven self-help declarations from other trading centers.<sup>8</sup> At 3:29 p.m., EDGX sent a notice to its members that it was “investigating a potential connectivity issue” and would return with an update shortly. By approximately 3:35 p.m., EDGX’s help desk had received calls from several of its members requesting cancellations, and it advised those members that it was experiencing issues and that the members should route away from EDGX. EDGX

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<sup>7</sup> Under the “least privilege” principle, each employee receives the least access necessary to perform his or her job responsibilities.

<sup>8</sup> Regulation NMS provides a “self-help” remedy that allows trading centers to bypass the quotations of a trading center that fails to provide immediate responses to incoming orders.

removed its quotations from the SIP at 3:43 p.m., approximately twenty-four minutes after the systems incident occurred. EDGX did not “immediately” identify its quotations as manual quotations when it had reason to believe that it was not capable of displaying automated quotations.

17. As a result of the April 13, 2011 systems incident, several members of EDGX submitted claims for a total of more than \$668,000 in losses. Respondents promptly notified the Commission staff of the incident.

### **Systems Procedures and Programs**

18. After the events discussed above, Respondents, with substantial assistance from external experts, engaged in an examination of their technological infrastructure in light of, among other things, Commission ARP guidelines, for purposes of ensuring that their procedures and programs are designed to prevent, and if not prevent, to appropriately address, systems errors in a manner consistent with their responsibilities as exchange operators. The Exchanges submitted to the Commission staff a Plan of Remediation, which they promptly began to implement. Among other things, the Exchanges retained multiple consultants and purchased new hardware, software licenses and related support systems to implement the Plan of Remediation. Remedial acts and other enhancements undertaken by Respondents include, but are not limited to, engaging outside counsel and consultants to conduct a review of Respondents’ compliance and operational policies, augmenting the ranks of staff and management, and making improvements to their compliance functions, information technology control environments, and information systems.

#### **D. Violations**

### **Section 19(b)(1) of the Exchange Act**

19. Section 19(b)(1) of the Exchange Act requires an exchange to file proposed rule changes with the Commission, and Rule 19b-4 provides that any “stated policy, practice, or interpretation” of an exchange shall be deemed a “proposed rule change” unless “it is reasonably and fairly implied by an existing rule” of the exchange. An exchange must file a proposed rule change with the Commission on Form 19b-4 and, in turn, the Commission publishes the proposed rule in the Federal Register to allow all interested parties to comment upon it. Pursuant to Section 19(b)(2), the Commission will approve the proposed rule change only upon a finding that it “is consistent with the requirements of [the Exchange Act] and the rules and regulations thereunder.”

20. Each Exchange violated Section 19(b)(1) of the Exchange Act by not filing a proposed rule change concerning the use of the DE Route error account to assume overfilled or error positions, including those positions arising from the systems incident on November 8, 2010.

### **Section 19(g)(1) of the Exchange Act**

21. Section 19(g)(1) of the Exchange Act requires every exchange to comply with the provisions of the Exchange Act, the rules and regulations thereunder, and its own rules, and, absent reasonable justification or excuse, to enforce compliance by its members with such provisions.

22. Each Exchange violated Section 19(g)(1) of the Exchange Act by not complying with its own rules when it allowed DE Route to engage in activities not approved by the Commission. DE Route conducted trading beyond the outbound and inbound routing on behalf of the Exchanges that was filed in the Exchanges' rules and approved by the Commission and caused the Exchanges' violations of Section 19(g) of the Exchange Act.

### **17 C.F.R. §§ 242.200(g) and 203(b) (Regulation SHO)**

23. Rule 200(g) of Regulation SHO requires that a broker or dealer must mark all sell orders of any equity security "long" or "short" or "short exempt."

24. Rule 203(b) of Regulation SHO provides that a broker or dealer may not effect a short sale in any equity security for its own account, unless the broker or dealer has borrowed the security, has entered into a bona fide agreement to borrow the security, or otherwise has reasonable grounds to believe that the security can be borrowed so that it can be delivered on the date it is due. Regulation SHO also requires that a broker or dealer document compliance with these requirements.

25. DE Route violated Rules 200(g) and 203(b) of Regulation SHO when, in liquidating the positions assumed in connection with the November 8, 2010 systems incident, DE Route failed to mark certain orders "short," mismarked other short sale orders "long," and did not locate the shorted stock prior to effecting these short sales.

### **17 C.F.R. § 242.602 (Regulation NMS)**

26. The definition of an automated trading center contained in Rule 600(b)(4) of Regulation NMS requires that such a trading center immediately identify its quotations as manual quotations whenever it has reason to believe that it is not capable of displaying automated quotations.

27. Rule 602(a)(1)(i) of Regulation NMS provides that "[e]ach national securities exchange shall at all times such exchange is open for trading, collect, process, and make available to vendors the best bid, the best offer, and aggregate quotation sizes for each subject security listed or admitted to unlisted trading privileges which is communicated on any national securities exchange by any responsible broker or dealer."

28. Rule 602(a)(3)(i) of Regulation NMS provides that "[i]f, at any time a national securities exchange is open for trading, such exchange determines . . . that the level of trading activities or the existence of unusual market conditions is such that the exchange is incapable of collecting, processing, and making available to vendors the data

for a subject security required to be made available pursuant to paragraph (a)(1) of this section in a manner that accurately reflects the current state of the market on such exchange, such exchange shall immediately notify all specified persons of that determination.”

29. EDGX, which displayed quotations representing that it was operating as an automated trading center, violated Rule 602(a)(3) of Regulation NMS on April 13, 2011, by not immediately notifying all specified persons when it determined that it was not capable of displaying quotations that accurately reflected the current state of the market on EDGX.

#### **E. Findings**

30. Based on the foregoing, the Commission finds that EDGA violated Sections 19(b) and 19(g) of the Exchange Act, EDGX violated Sections 19(b) and 19(g) of the Exchange Act and Rule 602(a)(3) thereunder, and DE Route caused violations of Section 19(g) of the Exchange Act and violated Rules 200(g) and 203(b) thereunder.

#### **F. Respondents’ Remedial Efforts**

31. In determining to accept the Offer, the Commission considered remedial acts undertaken by Respondents and cooperation afforded the Commission staff.

#### **G. Undertakings**

Respondents have undertaken to:<sup>9</sup>

1. Implement the measures set forth in the Plan of Remediation (“the Plan”), substantially in accordance with the schedule set forth in the Plan. To the extent that a non-material variation from the Plan is necessary, Respondents shall consult with TM and OCIE. The measures encompassed by the Plan include:

- (a) enhancing EDGA’s and EDGX’s policies and procedures with respect to systems development and maintenance that include automated testing; testing of new code and functions as they are introduced; testing of all software changes; end-user testing; audits of information systems; and controls over and oversight of systems changes;
- (b) implementing the following programs:
  - (i) an enterprise risk management framework;
  - (ii) an information security program, including the hiring of an information security director and the appointment of dedicated program resources;

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<sup>9</sup> Respondents have begun or completed many of the Undertakings.



- (iii) enhancements to Respondents' information technology control framework and underlying controls, including:
  - (1) a policy designed to restrict employee access to production trading system components except to the extent necessary, including the principle of least privilege user access;
  - (2) measures to provide for greater differentiation of production and nonproduction environments; and
  - (3) enhancements to their systems development methodology and quality assurance practices.
- (c) outsourcing the Exchanges' internal audit function regarding information systems;
- (d) engaging outside counsel to conduct a retrospective review of the circumstances leading to the systems incidents at the Exchanges and the submission of the Plan; and
- (e) hiring a Corporate Training Director to create and assure a sustainable and productive annual training program for all Direct Edge employees, which shall include, but not be limited to, training regarding the federal securities laws and regulations, including Regulation NMS and Regulation SHO; the rules of EDGA and EDGX; and Respondents' policies and procedures.

2. Hire a Chief Compliance Officer ("CCO") who reports directly to the Chief Executive Officer of the Exchanges, with dotted line reporting to the Exchanges' Regulatory Oversight Committees and Boards. The CCO's responsibilities include implementing policies and procedures reasonably designed to ensure that Respondents fulfill their regulatory and compliance obligations; coordinating with the Chief Information Officer to implement policies and procedures reasonably designed to ensure the quality, integrity, security, and stability of Respondents' information technology and information security control environments; and serving as the primary point of contact for the Commission staff regarding Respondents' regulatory obligations.

3. Develop procedures to compensate Exchange members for losses incurred as a result of Exchange activities only as permitted by Respondents' rules.

4. Submit a rule filing to the Commission that satisfies the requirements of Form 19b-4 to change the operational scope of DE Route's error account.

5. Engage outside counsel to conduct a comprehensive review of the Respondents' policies and procedures for compliance with the federal securities laws, rules and regulations thereunder, and the Respondents' rules and identify areas for enhancement.

6. With respect to each of the reviews identified in Paragraphs 1(d) and 5 of this Section III.G:

- (a) The Respondents shall require Counsel to submit written recommendations for improvement to the Boards. The Boards shall adopt the recommendations made by Counsel, subject to Section III.G.6(b) below, and shall take steps necessary to commence implementation of such recommendations.
- (b) If the Boards determine that any of the recommendations are unduly burdensome or impractical, they may propose an alternative reasonably designed to accomplish the same objectives, and they shall submit any such alternative to Counsel. If, upon evaluating the Boards' proposal, Counsel determines that the suggested alternative is reasonably designed to accomplish the same objectives as the recommendations in question, then Counsel shall approve the suggested alternative and amend his/her recommendations. If Counsel determines that the suggested alternative is not reasonably designed to accomplish the same objectives, Counsel shall reject the Boards' proposal. In the event that the Boards and the Counsel jointly determine that they are unable to agree on an alternative proposal, Respondents and Counsel shall jointly confer with TM and OCIE to resolve the matter.

7. Expend sufficient funds to permit Respondents' regulatory personnel to discharge the Undertakings referenced herein, including, but not limited to, providing adequate funds for the retention of outside counsel and/or professionals.

8. To the extent that any claims for loss associated with the November 8, 2010 and April 13, 2011 systems incidents have not yet been paid, ensure that they are paid consistent with the rules of EDGX and EDGA in effect at those times.

9. When each Exchange's Chief Executive Officer concludes that, to the best of his or her knowledge based on reasonable inquiry, EDGX, EDGA, and DE Route have achieved all of the Undertakings set forth in this Order, he or she shall certify, in writing, compliance with the Undertaking(s) set forth above. Such certifications shall be reviewed and accepted for filing by the Audit Committee of the Board of each Exchange. The certification shall identify the Undertaking(s), provide written evidence of compliance in the form of a narrative, and be supported by exhibits sufficient to demonstrate compliance. The Commission staff may make reasonable requests for further evidence of compliance, and Respondent agrees to provide such evidence. The certification and supporting material shall be submitted to Kathryn A. Pyszka, Assistant Director, Market Abuse Unit, Chicago Regional Office, with a copy to the Office of Chief Counsel of the Enforcement Division, no later than sixty (60) days from the date of the completion of the undertakings.

#### IV.

In view of the foregoing, the Commission deems it necessary and appropriate in the public interest, and for the protection of investors to impose the sanctions agreed to in Respondents' Offer.

Accordingly, pursuant to Sections 19(h)(1) and 21C of the Exchange Act, it is hereby ORDERED that:

A. Respondents EDGA, EDGX, and DE Route be, and hereby are, censured pursuant to Section 19(h)(1) of the Exchange Act;

B. Respondent EDGA be, and hereby is, ordered pursuant to Section 21C of the Exchange Act to cease and desist from committing or causing any violations and any future violations of Sections 19(b) and 19(g) of the Exchange Act;

C. Respondent EDGX be, and hereby is, ordered pursuant to Section 21C of the Exchange Act to cease and desist from committing or causing any violations and any future violations of Sections 19(b) and 19(g) of the Exchange Act and Rule 602(a)(3) thereunder;

D. Respondent DE Route be, and hereby is, ordered pursuant to Section 21C of the Exchange Act to cease and desist from committing or causing any violations and any future violations of Section 19(g) of the Exchange Act and Rules 200(g) and 203(b) thereunder; and

E. Respondents EDGA, EDGX, and DE Route shall comply with the Undertakings enumerated in Section III.G above.

By the Commission.

Elizabeth M. Murphy  
Secretary