

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34-88911; File Nos. SR-DTC-2020-008; SR-FICC-2020-004; SR-NSCC-2020-008)

May 20, 2020

Self-Regulatory Organizations; The Depository Trust Company; Fixed Income Clearing Corporation; National Securities Clearing Corporation; Order Approving a Proposed Rule Change to Modify the Clearing Agency Model Risk Management Framework

On April 10, 2020, The Depository Trust Company (“DTC”), Fixed Income Clearing Corporation (“FICC”), and National Securities Clearing Corporation (“NSCC,” each a “Clearing Agency,” and collectively, the “Clearing Agencies”), filed with the Securities and Exchange Commission (“Commission”) proposed rule changes SR-DTC-2020-008; SR-FICC-2020-004; SR-NSCC-2020-008, respectively, pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup> and Rule 19b-4 thereunder.<sup>2</sup> The proposed rule changes were published for comment in the Federal Register on April 21, 2020,<sup>3</sup> and the Commission received no comment letters regarding the changes proposed in the proposed rule changes. For the reasons discussed below, the Commission is approving the proposed rule changes.<sup>4</sup>

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<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> 17 CFR 240.19b-4.

<sup>3</sup> Securities Exchange Act Release No. 88640 (April 15, 2020), 85 Fed. Reg. 22191 (April 21, 2020) (“DTC Notice of Filing”); Securities Exchange Act Release No. 88636 (April 15, 2020), 85 Fed. Reg. 22228 (April 21, 2020) (“FICC Notice of Filing”); Securities Exchange Act Release No. 88637 (April 15, 2020), 85 Fed. Reg. 22222 (April 21, 2020) (“NSCC Notice of Filing”).

<sup>4</sup> Capitalized terms not defined herein are defined in the DTC Rules, GSD Rules, MBSD Rules, or NSCC Rules, as applicable, available at <http://dtcc.com/legal/rules-and-procedures>.

## I. DESCRIPTION OF THE PROPOSED RULE CHANGE

### A. Background

Each Clearing Agency has established a Model Risk Management Framework (“Framework”)<sup>5</sup> to help it identify, measure, monitor, and manage the risks associated with the design, development, implementation, use, and validation of quantitative models.<sup>6</sup> Pursuant to the Framework, a model developed for use by any of the Clearing Agencies and meeting the above definition for the term “model” is included and tracked within a model inventory (“Model Inventory”) maintained by DTCC’s Model Validation and Control Unit (“MVC”), which is part of the Group Chief Risk Office. The parent company of the Clearing Agencies is The Depository Trust & Clearing Corporation (“DTCC”). DTCC operates on a shared services model with respect to the Clearing

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<sup>5</sup> See Securities Exchange Act Release No. 81485 (August 25, 2017), 82 Fed. Reg. 41433 (August 31, 2017) (File Nos. SR-DTC-2017-008; SR-FICC-2017-014; SR-NSCC-2017-008) (“2017 Framework Order”). The proposed rule changes do not require any changes to (1) the Rules, By-Laws and Organization Certificate of DTC (“DTC Rules”), (2) the Rulebook of the Government Securities Division of FICC (“GSD Rules”), (3) the Clearing Rules of the Mortgage-Backed Securities Division of FICC (“MBSD Rules”), or (4) the Rules & Procedures of NSCC (“NSCC Rules”), as the Framework is a standalone document.

<sup>6</sup> See 2017 Framework Order, 82 Fed. Reg. at 41433. “[M]odel” refers to a quantitative method, system, or approach that applies statistical, economic, financial, or mathematical theories, techniques, and assumptions to process input data into quantitative estimates. A “model” consists of three components: an information input component, which delivers assumptions and data to the model; a processing component, which transforms inputs into estimates; and a reporting component, which translates the estimates into useful business information. The definition of “model” also covers quantitative approaches whose inputs are partially or wholly qualitative or based on expert judgment, provided that the output is quantitative in nature. See DTC Notice of Filing, 82 Fed. Reg. at 22192; FICC Notice of Filing, 82 Fed. Reg. at 22228; NSCC Notice of Filing, 82 Fed. Reg. at 22222.

Agencies. Most corporate functions are established and managed on an enterprise-wide basis pursuant to intercompany agreements under which it is generally DTCC that provides a relevant service to a Clearing Agency.

The proposed rule changes would amend the Framework to (i) modify certain roles and governance arrangements set forth within the Framework, (ii) incorporate a description of and references to the “Model Risk Tolerance Statement,” and (iii) make other technical and clarifying changes to the text of the Framework, as described below.

B. Modification of Roles and Governance Arrangements

1. Role and Reporting Lines of the Model Owner, MVC, and MRC

Section 3.1 of the Framework describes how models are developed for use by any of the Clearing Agencies and tracked within the Model Inventory.<sup>7</sup> In particular, the Framework currently describes a “Model Owner”<sup>8</sup> as the person responsible for the development or operation of a model being validated by MVC. The proposal would define a Model Owner as the person who is designated by the applicable business area or support function to be responsible for a particular model and who is recorded as the Model Owner for such model by MVC in the Model Inventory.

Currently, the Framework states that the Executive Director of MVC reports to the Group Chief Risk Officer rather than to any Model Owner. The proposal would change the title of the head of MVC from an Executive Director to Managing Director at each Clearing Agency to reflect that a more senior officer of the Clearing Agencies would be

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<sup>7</sup> See DTC Notice of Filing, 82 Fed. Reg. at 22192; FICC Notice of Filing, 82 Fed. Reg. at 22228; NSCC Notice of Filing, 82 Fed. Reg. at 22223.

<sup>8</sup> See 2017 Framework Order, 82 Fed. Reg. at 41434.

responsible for supervising MVC.<sup>9</sup> The proposal would also clarify that the head of MVC reports to the Group Chief Risk Officer rather than to anyone that could be a Model Owner (i.e., anyone who develops and operates a model and not only personnel who are currently Model Owners). The Clearing Agencies represent that this change is to make clear that MVC has an independent reporting line to the Group Chief Risk Officer, without potential conflict of reporting to any person that could be a Model Owner.<sup>10</sup> Under the proposal, the Framework would further state that the head of MVC is a member of the Management Risk Committee (“MRC”).<sup>11</sup>

## 2. Processes for Determining Model Materiality and Complexity

Section 3.2 of the Framework outlines that MVC assigns a materiality rating and complexity rating to each model after it is added to the Model Inventory.<sup>12</sup> Currently, all model materiality rating and complexity rating assignments are reviewed by at least annually by MVC, as well as by the Model Risk Governance Committee (“MRGC”).<sup>13</sup>

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<sup>9</sup> See DTC Notice of Filing, 82 Fed. Reg. at 22193; FICC Notice of Filing, 82 Fed. Reg. at 22229; NSCC Notice of Filing, 82 Fed. Reg. at 22223.

<sup>10</sup> See DTC Notice of Filing, 82 Fed. Reg. at 22193; FICC Notice of Filing, 82 Fed. Reg. at 22229; NSCC Notice of Filing, 82 Fed. Reg. at 22224.

<sup>11</sup> The MRC is the Clearing Agencies’ management level committee responsible for, among other things, model risk management matters. See 2017 Framework Order, 82 Fed. Reg. at 41435.

<sup>12</sup> A model’s rating impacts both the prioritization and approval authority for that model’s validation. See DTC Notice of Filing, 82 Fed. Reg. at 22193; FICC Notice of Filing, 82 Fed. Reg. at 22230; NSCC Notice of Filing, 82 Fed. Reg. at 22224.

<sup>13</sup> See 2017 Framework Order, 82 Fed. Reg. at 41434.

The proposal would revise the role of the MRGC, including by removing its oversight authority in the Model Validation process and leaving MVC as the sole entity responsible for reviewing the model materiality and complexity ratings. Moreover, under the proposal, the MRGC would serve as a forum for review of model risk matters rather than a decision-making body charged with the oversight of such matters. The proposal would also revise the MRGC's name by replacing "Committee" with "Council" to reflect the MRGC's role as an advisory body.<sup>14</sup>

### 3. Processes for Model Approval and Control

Section 3.6 of the Framework currently provides that the Financial Engineering Unit ("FEU") within Quantitative Risk Management ("QRM") is responsible for developing, testing, and signing-off on new models and enhancements to existing models before submitting any new model to MVC for Model Validation and approval. The Clearing Agencies state that QRM is a risk management function within the Group Chief Risk Office, and that a representative of QRM is the Model Owner for all margin models used by the Clearing Agencies.<sup>15</sup> The section further explains that all new models and all material changes to existing models undergo Model Validation by MVC and must be approved prior to business use. In addition, the section states that models that have a

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<sup>14</sup> See DTC Notice of Filing, 82 Fed. Reg. at 22193; FICC Notice of Filing, 82 Fed. Reg. at 22230; NSCC Notice of Filing, 82 Fed. Reg. at 22224. As proposed, the MRGC could provide advice or recommendations regarding model risk matters to the interested party of a pertinent model.

<sup>15</sup> See DTC Notice of Filing, 82 Fed. Reg. at 22194; FICC Notice of Filing, 82 Fed. Reg. at 22230; NSCC Notice of Filing, 82 Fed. Reg. at 22224.

materiality rating of ‘Medium’ or ‘High’ must be approved by the MRC, after the MRGC has reviewed the model and recommended it to the MRC for approval.

The proposal would transfer FEU’s responsibilities to the Model Owners to reflect the elimination of the FEU within QRM.<sup>16</sup> Also, the proposal would remove the requirement that Model Validations with a materiality rating of ‘Medium’ or ‘High’ be approved by the MRC, after the MRGC has reviewed and recommended the model to the MRC for approval. As a result of these changes, MVC would have the sole and exclusive authority to approve a model.

The Clearing Agencies represent that MVC is best suited to address Model Validation issues based on its quantitative and technical expertise and knowledge.<sup>17</sup> Accordingly, the proposal would remove any text that indicates that MRC approval is required for any Model Validation to be complete and/or for a model to remain in production. In addition, consistent with the proposed changes to Section 3.2, the proposal would make changes to reflect that the MRGC does not have any oversight role for model approval and control.

#### 4. Model Performance Monitoring Responsibilities

Section 3.8 of the Framework currently states that MVC is responsible for model performance monitoring, including review of risk-based models used to calculate margin requirements and relevant parameters/threshold indicators, sensitivity analysis, and model backtesting results, and preparation of related reports. It also states that review of these model performance measures is subject to review by the MRGC.

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<sup>16</sup> See id.

<sup>17</sup> See id.

Under the proposal, the Framework would identify Model Owners as responsible for the design and execution of model performance monitoring and preparation of model performance monitoring reports. Similarly, the proposal would revise the Framework to clarify that QRM, which encompasses Model Owners, would be responsible for model performance monitoring of the Clearing Agencies' margin models. The proposal would also revise the role of MVC with respect to model performance monitoring to providing oversight of model performance monitoring activities (as opposed to conducting the monitoring) by setting organizational standards and providing critical analysis for identifying model issues and/or limitations. In addition, the proposal would remove the statement that review of model performance measure is subject to review by the MRGC.

5. Backtesting Responsibilities

Section 3.9 of the Framework currently states that MVC is responsible for each Clearing Agency's Value-at-Risk ("VaR") backtesting and Clearing Fund Requirement ("CFR") backtesting. Consistent with the changes described above, this section would be revised to state that QRM would perform VaR and CFR backtesting, as QRM is responsible for performance monitoring functions with respect to margin models.

6. Board of Directors and Senior Management Reporting

Section 4.1 of the Framework currently describes the MRGC as the primary forum for MVC's regular reporting of Model Validation activities and material model risks identified through regular model performance monitoring. The proposal would delete this reference to the MRGC's role, as it would no longer have oversight of Model Validation and model performance monitoring. In addition, it would add the MRC as a recipient of periodic reporting.

## 7. Escalation

Section 4.2 describes the processes applicable for further review of the key metrics identified in Section 3.9 (Backtesting). Currently, such metrics are reviewed by the Market and Liquidity Risk Management unit within the Group Chief Risk Office and MVC, and also reported to the MRC, on at least a monthly basis. The section further states that the MRGC reviews and approves changes to backtesting methodology.

The proposal would eliminate the provision that MVC would review the metrics and clarify that the key metrics are reported to MRC by the group within the Group Chief Risk Office responsible for risk reporting. The proposal would remove the MRGC's role in review and approval of changes to backtesting methodology and instead vest that responsibility with MVC to reflect the change in oversight of Model Validation from the MRGC to MVC.

### C. Incorporation of the Model Risk Tolerance Statement

The Framework currently includes a description of internal DTCC policies and procedures that support the Framework, including the (1) DTCC Model Risk Management Policy, (2) DTCC Model Validation Procedures, (3) DTCC Model Risk Performance Monitoring Procedures, (4) the DTCC Backtesting Procedures, and (5) Market Risk Tolerance Statement ("Related Procedures"). The Framework also notes that the Related Procedures may be updated or amended.

The proposal would add the Model Risk Tolerance Statement as one of DTCC's internal policies and procedures to support the Framework. The proposal would explain that the Model Risk Tolerance Statement sets forth, among other things, risk tolerance



levels covering model design and implementation, including consideration of a model's intended purpose and/or its adequacy of performance.

The proposal would also add an explanation of the existing Market Risk Tolerance Statement, stating that it articulates, among other things, risk tolerance levels for (i) margin backtests addressing backtest coverage and (ii) stress tests covering exposure to extreme market moves.

Further, the proposal would add language to the Framework stating that the Model Risk Tolerance Statement and the Market Risk Tolerance Statement (each a "Risk Tolerance Statement") record the overall risk reduction or mitigation objectives as they relate to model risk and market risk activities. Under the proposal, the Framework would also state that the Risk Tolerance Statements document the risk controls and other measures used to manage such activities, including escalation requirements in the event of risk metric breaches. Similarly, the proposal would also revise the Framework to provide that the Risk Tolerance Statements would be reviewed, revised, retired, replaced, or approved by the BRC annually, based upon the existing circumstances and the reasonable best judgement of management relating to model risk management matters.

D. Other Technical Changes

The proposal would also make a number of technical changes to the Framework. First, Section 3.8 of the Framework currently states that model performance monitoring is the process of (i) evaluating an active model's ongoing performance based on theoretical tests, (ii) monitoring the model's parameters through the use of threshold indicators, and/or (iii) backtesting using actual historical data/realizations to test a VaR model's predictive power. The Clearing Agencies state that the process of model performance

monitoring does not always take into account theoretical tests, threshold indicators, and/or historical data/realizations, but could take some or all of these into account as appropriate under the circumstances.<sup>18</sup> Accordingly, the proposal would eliminate references to “theoretical tests,” “threshold indicators,” and “historical data/realizations” to provide a more accurate description of the Clearing Agencies’ model performance monitoring process.<sup>19</sup>

Second, to improve the readability and clarity of the Framework’s text, the proposal would (1) remove the use of the modifier “Clearing Agency” with respect to references to models and other parts of the Framework, (2) replace “vendor” with “externally purchased” in describing models developed externally, (3) relocate certain sentences, and (4) consistently use “model” without capitalization.

## II. DISCUSSION AND COMMISSION FINDINGS

Section 19(b)(2)(C) of the Act<sup>20</sup> directs the Commission to approve a proposed rule change of a self-regulatory organization if it finds that such proposed rule change is consistent with the requirements of the Act and rules and regulations thereunder applicable to such organization. After carefully considering the proposed rule change, the Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to the Clearing Agencies. In particular, the Commission finds that the proposed rule change is consistent with

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<sup>18</sup> See DTC Notice of Filing, 82 Fed. Reg. at 22194; FICC Notice of Filing, 82 Fed. Reg. at 22231; NSCC Notice of Filing, 82 Fed. Reg. at 22225.

<sup>19</sup> See *id.*

<sup>20</sup> 15 U.S.C. 78s(b)(2)(C).

Section 17A(b)(3)(F)<sup>21</sup> of the Act and Rules 17Ad-22(e)(2)(v), (e)(4)(vii), and (e)(7)(vii) thereunder.<sup>22</sup>

A. Consistency with Section 17A(b)(3)(F)

Section 17A(b)(3)(F) of the Act requires, in part, that the rules of a clearing agency be designed to assure the safeguarding of securities and funds which are in the custody or control of the clearing agency or for which it is responsible.<sup>23</sup>

As described above, the Framework is designed to identify, measure, monitor, and manage the risks related to the design, development, implementation, use, and validation of quantitative models. The proposal is designed to enhance the Framework by improving the governance arrangements relating to the management of the Clearing Agencies' quantitative models, expanding internal policies and procedures to manage the models, and removing inconsistent and inaccurate terminology.

First, the proposal is designed to clarify and enhance the governance structures set forth in the Framework in a number of ways. The proposal would clarify and revise the roles of Model Owner and QRM. The proposal would revise MRGC's role as advisory and no-decision making one, and transfer MRGC's responsibilities to MVC. The proposal would transfer the responsibility for approval of Model Validations from MRC to MVC. The Clearing Agencies represent that MVC is composed of individuals with a high level of expertise relating to Model Validation, and that MVC has an independent

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<sup>21</sup> 15 U.S.C. 78q-1(b)(3)(F).

<sup>22</sup> 17 CFR 240.17Ad-22(e)(2)(v), (e)(4)(vii), and (e)(7)(vii).

<sup>23</sup> 15 U.S.C. 78q-1(b)(3)(F).

reporting line to the Group Chief Risk Officer, without any potential conflict of reporting to any person that could be a Model Owner.<sup>24</sup> Thus, taken together, under the proposal, the governance arrangements set forth in the Framework would specify these particular lines of responsibility that ensure independence and competency of the group that manages model risk.

Second, the proposal incorporates the Model Risk Tolerance Statement in the Framework as one of the Clearing Agencies' internal policies and procedures to support the Framework. The Model Risk Tolerance Statement should provide additional specificity and clarity to the risk tolerance levels and help the Clearing Agencies to manage their models within more clearly defined risk tolerance levels. Third, the proposal makes other technical and clarifying changes to the text that should help facilitate the effective execution of the Framework by removing inconsistent use of terminology and adopting more accurate terminology.

With the proposed rule changes designed to enhance the Framework, the Clearing Agencies should be able to more effectively manage its quantitative models, and in turn, better evaluate and address risk presented by Clearing Agencies' members. By effectively evaluating and addressing risk presented by members, the Clearing Agencies should be able to better address their exposure to members and assure the safeguarding of securities and funds which are in Clearing Agencies' custody or control. Therefore, for

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<sup>24</sup> See DTC Notice of Filing, 82 Fed. Reg. at 22194; FICC Notice of Filing, 82 Fed. Reg. at 22230; NSCC Notice of Filing, 82 Fed. Reg. at 22224. MVC is functionally separate from all Clearing Agency areas that develop or operate models. See 2017 Framework Order, 82 Fed. Reg. at 41434.

the reasons stated above, the Commission believes that the proposed rule changes are consistent with the requirements of Section 17A(b)(3)(F) of the Act.<sup>25</sup>

B. Consistency with Rules 17Ad-22(e)(2)(v)

Rule 17Ad-22(e)(2)(v) under the Act requires that each covered clearing agency establish, implement, maintain and enforce written policies and procedures reasonably designed to provide for governance arrangements that specify clear and direct lines of responsibility.<sup>26</sup>

As stated above, the proposal clarifies and specifies the governance arrangements relating to the management of the Clearing Agencies model risk management, including: (1) the officer responsible for supervising MVC would be elevated from Executive Director to Managing Director; (2) the officer responsible for supervising would report directly to the Group Chief Risk Officer rather than any person that is part of the development or operation of a model; (3) the MRGC would relinquish any decision making authority with regard to model risk management issues; (4) MVC would have the sole and exclusive authority to approve a model, and would oversee model performance monitoring activities; and (5) QRM would perform VaR and CFR backtesting. Such changes would clearly specify particular lines of responsibilities and a decision making process at each stage of the model risk management process. Because the proposal would specify clear and direct lines of responsibility, the Commission believes that the

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<sup>25</sup> 15 U.S.C. 78q-1(b)(3)(F).

<sup>26</sup> 17 CFR 240.17Ad-22(e)(2)(v).

proposed changes to the Framework are consistent with Rule 17Ad-22(e)(2)(v)<sup>27</sup> under the Act.

C. Consistency with Rules 17Ad-22(e)(4)(vii) and (e)(7)(vii)

Rule 17Ad-22(e)(4)(vii) under the Act requires that each covered clearing agency establish, implement, maintain and enforce written policies and procedures reasonably designed to effectively identify, measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes, including by performing a model validation for its credit risk models not less than annually or more frequently as may be contemplated by the covered clearing agency's risk management framework.<sup>28</sup>

Rule 17Ad-22(e)(7)(vii) under the Act requires, in part, that each covered clearing agency establish, implement, maintain and enforce written policies and procedures reasonably designed to effectively identify, measure, monitor, and manage the liquidity risk that arises in or is borne by the covered clearing agency, including measuring, monitoring, and managing its settlement and funding flows on an ongoing basis, and its use of intraday liquidity by, at a minimum, performing a model validation for its liquidity risk models not less than annually or more frequently as may be contemplated by the covered clearing agency's risk management framework.<sup>29</sup>

Rule 17Ad-22(a)(9) under the Act defines a model validation as an evaluation of the performance of each material risk management model used by a covered clearing

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<sup>27</sup> 17 CFR 240.17Ad-22(e)(2)(v).

<sup>28</sup> 17 CFR 240.17Ad-22(e)(4)(vii).

<sup>29</sup> 17 CFR 240.17Ad-22(e)(7)(vii).

agency (and the related parameters and assumptions associated with such models), including initial margin models, liquidity risk models, and models used to generate clearing or guaranty fund requirements, performed by a qualified person who is free from influence from the persons responsible for the development or operation of the models or policies being validated.<sup>30</sup>

The Framework provides a process for validation of the Clearing Agencies' credit and liquidity risk models. The proposal would enhance the Framework by clarifying and amending the governance relating to the model risk management of these models, including Model Validation, expanding internal policies and procedures to manage the models, and removing inconsistent and inaccurate terminology.

In particular, the proposal would state that MVC would have the sole and exclusive authority to approve a model and that it has an independent reporting line to the Group Chief Risk Officer. The Clearing Agencies represent that this change is to make clear that MVC would not have potential conflicts of interest by reporting to any person that could have been a part of the development or operation of a model. Also, the proposal would remove the MRGC's oversight authority regarding Model Validation and move that authority to MVC. The Clearing Agencies represent that MVC is composed of individuals with a high level of quantitative and technical expertise and knowledge.

The changes set forth in the proposal would clearly define the governance applicable to the Model Validation process and assign responsibilities to a group that is qualified and free from influence from the persons responsible for the development and operation of the Clearing Agencies' models. The Framework would continue to provide

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<sup>30</sup> 17 CFR 240.17Ad-22(a)(9).

that Model Validations are performed annually. The Commission therefore believes that the proposed changes to the Framework are consistent with Rule 17Ad-22(e)(4)(vii)<sup>31</sup> and (e)(7)(vii)<sup>32</sup> under the Act.

### III. CONCLUSION

On the basis of the foregoing, the Commission finds that the proposed rule changes are consistent with the requirements of the Act and in particular with the requirements of Section 17A of the Act<sup>33</sup> and the rules and regulations promulgated thereunder.

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<sup>31</sup> 17 CFR 240.17Ad-22(e)(4)(vii).

<sup>32</sup> 17 CFR 240.17Ad-22(e)(7)(vii).

<sup>33</sup> 15 U.S.C. 78q-1.



IT IS THEREFORE ORDERED, pursuant to Section 19(b)(2) of the Act<sup>34</sup> that proposed rule changes SR-DTC-2020-008, SR-FICC-2020-004, SR-NSCC-2020-008, be, and hereby are, APPROVED.<sup>35</sup>

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>36</sup>

J. Matthew DeLesDernier  
Assistant Secretary

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<sup>34</sup> 15 U.S.C. 78s(b)(2).

<sup>35</sup> In approving the proposed rule changes, the Commission considered the proposals' impact on efficiency, competition, and capital formation. 15 U.S.C. 78c(f).

<sup>36</sup> 17 CFR 200.30-3(a)(12).