

Areas (MSAs) and non-metropolitan counties. The sample is selected using the United States Postal Service postal delivery sequence file (DSF) and, where the DSF has poor coverage (90% or less), field listing. The 17 largest MSAs are included with certainty, while other NFAs are sampled with probability proportionate to size (PPS) and with implicit stratification by geographic and demographic characteristics. Within all selected NFAs, tracts or block groups are further selected with PPS and implicit stratification by additional geographic and demographic characteristics. The tertiary sampling units, addresses, are a random sample from the DSF or, alternatively, a field inventory of addresses. When a housing unit is visited by a field interviewer, one person is selected to be interviewed from the housing unit at random. Not all GSS respondents are given the S&T Attitudes survey, which is a module on the GSS. Which GSS respondents get the S&T Attitudes module is determined by systematic sampling conducted to ensure that each NFA and segment (tract or block group) in the sample has an equal number of S&T Attitudes surveys.

Dated: August 28, 2017.

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[FR Doc. 2017-18472 Filed 8-30-17; 8:45 am]

BILLING CODE 7555-01-P

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## SECURITIES AND EXCHANGE COMMISSION

[Release No. 34-81485; File Nos. SR-DTC-2017-008; SR-FICC-2017-014; SR-NSCC-2017-008]

### Self-Regulatory Organizations; The Depository Trust Company; Fixed Income Clearing Corporation; National Securities Clearing Corporation; Order Approving Proposed Rule Changes To Adopt the Clearing Agency Model Risk Management Framework

August 25, 2017.

On June 20, 2017, The Depository Trust Company (“DTC”), Fixed Income Clearing Corporation (“FICC”), and National Securities Clearing Corporation (“NSCC,” each a “Clearing Agency,” and collectively, “Clearing Agencies”) filed with the Securities and Exchange Commission (“Commission”), proposed rule changes SR-DTC-2017-008, SR-FICC-2017-014, and SR-NSCC-2017-008 (collectively, the “Proposed Rule Changes”), 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 July 11, 2017.<sup>3</sup> The Commission did not receive any comment letters on the Proposed Rule Changes. For the reasons discussed below, the Commission approves the Proposed Rule Changes.

#### I. Description of the Proposed Rule Changes

The Proposed Rule Changes would adopt the Clearing Agency Model Risk Management Framework (“Framework”), which would set forth the model risk management practices adopted by the Clearing Agencies. Although the Framework would be a rule of each Clearing Agency, the Proposed Rule Changes do not require any changes to the Rules, By-Laws and Organizational Certificate of DTC, the Rulebook of GSD, the Clearing Rules of MBSB,<sup>4</sup> or the Rules & Procedures of NSCC, as the Framework would be a standalone document for each Clearing Agency.

In general, the Framework would describe the model risk management practices adopted by the Clearing Agencies. The Framework is designed to help identify, measure, monitor, and manage the risks associated with the design, development, implementation, use, and validation of quantitative models. The Framework would describe (i) governance of the Framework; (ii) key terms; (iii) model inventory procedures; (iv) model validation procedures; (v) model approval process; and (vi) model performance procedures.

##### A. Governance of the Framework

The Framework would outline the Clearing Agencies’ governance of the Framework itself. The Framework would be owned and managed by (i) the Clearing Agencies’ risk management area generally responsible for model

validation and control matters, (ii) the DTCC Model Validation and Control Group (“MVC”),<sup>5</sup> and (iii) senior management and the Board of Directors of each Clearing Agency (“Boards”), which would have review and oversight authority.<sup>6</sup>

The Framework would provide that (i) any change to the Framework must be approved by the Boards or such committees as may be delegated authority by the Boards, from time to time, pursuant to the Boards’ charters, (ii) MVC shall review this Framework no less frequently than annually, and (iii) any and all changes to this Framework are subject to regulatory review and approval.<sup>7</sup>

##### B. Key Terms

The Framework would define two key terms: Model and Model Risk. The term “Model” would refer 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.<sup>8</sup> A Model would consist of three components: (1) An information input component, which would deliver assumptions and data to the Model; (2) a processing component, which would transform inputs into estimates; and (3) a reporting component, which would translate the estimates into useful business information.<sup>9</sup> A Model also would cover quantitative approaches whose inputs are partially or wholly qualitative or based on expert judgment, provided that the output is quantitative in nature.<sup>10</sup>

The term “Model Risk” would refer to the potential for adverse consequences from decisions based on incorrect or misused Model outputs and reports, and primarily occurring due to (i) fundamental errors in the design or development of Models; (ii) incorrect Model input or assumptions; (iii) erroneous implementation of Models; (iv) unauthorized or incorrect changes to Models; (v) changes in market conditions rendering existing Models

<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. 81074 (July 5, 2017), 82 FR 32030 (July 11, 2017) (SR-DTC-2017-008; SR-FICC-2017-014; SR-NSCC-2017-008) (“Notice”).

<sup>4</sup> Available at <http://www.dtcc.com/en/legal/rules-and-procedures>. FICC is comprised of two divisions: The Government Securities Division (“GSD”) and the Mortgage-Backed Securities Division (“MBSB”). Each division serves as a central counterparty, becoming the buyer and seller to each of their respective members’ securities transactions and guarantying settlement of those transactions, even if a member defaults. GSD provides, among other things, clearance and settlement for trades in U.S. Government debt issues. MBSB provides, among other things, clearance and settlement for trades in mortgage-backed securities. GSD and MBSB maintain separate sets of rules, margin models, and clearing funds.

<sup>5</sup> 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 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. Notice, 82 at 32031.

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*; see Supervisory Guidance on Model Risk Management, SR Letter 11-7, dated April 4, 2011, issued by the Board of Governors of the Federal Reserve System and the Office of the Comptroller of the Currency, at 3.

unfit for their intended purpose; and (vi) misuse of or overreliance on Models.<sup>11</sup> The Framework would state that it is designed to minimize the Clearing Agencies' potential for financial loss, inaccurate financial or regulatory reporting, misaligned business strategies, or damage to their respective reputations resulting from a failure to properly manage Model Risk.<sup>12</sup>

### C. Model Inventory Procedures

The Framework would describe the Clearing Agencies' Model inventory procedures. All Clearing Agency Models would be subject to tracking for monitoring purposes within each Clearing Agency ("Model Inventory").<sup>13</sup> The Framework would describe how a Model Inventory survey is conducted at least annually across the Clearing Agencies to confirm that the Model Inventory is current.<sup>14</sup> During this survey period, all Clearing Agency business areas and support functions that intend to develop a model (for Clearing Agency use) would submit a list of their planned models to MVC in order for MVC to conclude whether they meet the definition of Model under the Framework.<sup>15</sup>

The Framework would outline how MVC would assign a materiality/complexity index rating to each Model when it is added to a Model Inventory, which would impact the Model's prioritization and authority required for approval.<sup>16</sup> All Model materiality/complexity index assignments would be reviewed at least annually by MVC, as well as by the committee specifically created by the Clearing Agencies to address Model Risk governance matters, the DTCC Model Risk Governance Committee ("MRGC").<sup>17</sup>

The Framework would further describe the initial and periodic validation protocols that would be applicable to all Models in the Model Inventory ("Model Validation").<sup>18</sup> The Framework would state that all Model Validations would be performed by qualified persons who are free from influence from the persons responsible for the development or operation of the Models being validated.<sup>19</sup> MVC, which is responsible for performing all Model Validations, is functionally separate from all Clearing Agency areas that

develop or operate Models.<sup>20</sup> The head of MVC directly reports to the head of the DTCC Group Chief Risk Office, rather than to anyone that is in charge of developing or operating Models for the Clearing Agencies.<sup>21</sup>

### D. Model Validation Procedures

The Framework would describe the Clearing Agencies' Model Validation procedures. Each new Model would undergo a full Model Validation unless provisionally approved.<sup>22</sup> The Framework would state that a full Model Validation would be applied (i) to all new Models prior to their use in production; (ii) during periodic Model Validations; and (iii) when Model changes are made that require an independent Model Validation.<sup>23</sup>

The Framework would provide that the DTCC Quantitative Risk Management Financial Engineering Unit, which is functionally separate from MVC, would be responsible for developing, testing, and signing-off on new Clearing Agency Models and enhancements to existing Clearing Agency Models before submitting any such Model to MVC for Model Validation and approval.<sup>24</sup>

The Framework would state that an active Model may require changes in either structure or technique.<sup>25</sup> Details for any Model change request would be provided to MVC for review and a determination of whether full Model Validation is required.<sup>26</sup> The Framework would describe that MVC would perform a Model Validation for each Clearing Agency Model approved for use in production not less than annually (or more frequently as may be contemplated by such Clearing Agency's established risk management framework), including each credit risk Model, liquidity risk Model, and in the case of FICC and NSCC, as central counterparties ("CCPs"), on their margin systems and related Models.<sup>27</sup>

In conducting a full Model Validation, MVC would verify that the Model is performing as expected in accordance with its design objectives and business purpose. The full Model Validation standards for any new Model would include, but not be limited to:

- Evaluation of the Model development documentation and testing;

- evaluation of Model theory and assumptions, and identification of potential limitations;

- evaluation of data inputs and parameters;

- review of numerical implementation including replication for certain key Model components, which would vary from Model to Model;

- independent testing, with respect to sensitivity analysis, stress testing, and benchmarking, as appropriate; and

- evaluation of Model outputs, Model performance, and backtesting.<sup>28</sup>

The Framework would provide that all Models approved for use in production also would be subject to periodic Model Validations for purposes of confirming that the Models continue to operate as intended, identifying any deficiencies that would call into question the continuing validity of any such Model.<sup>29</sup> The Framework would further provide that periodic Model Validations would generally use the same standards as an initial Model Validation.<sup>30</sup> In certain cases, MVC may determine extra Model Validation activities are warranted based on previous Model Validation work and findings, changes in market conditions, or because a particular Model warrants extra validation.<sup>31</sup>

The Framework would provide that MVC would centrally track all findings from (i) a new Model Validation; (ii) a change in Model Validation; (iii) a periodic Model Validation; or (iv) the implementation of a new Model or Model change.<sup>32</sup> The status of any changes to address a finding for approved Models would be reported to the MRGC on a monthly basis.<sup>33</sup> If a finding is related to Model implementation errors, the persons responsible for the development or operation of the Model ("Model Owner") would report such findings, incidents, or both in accordance with the policies and procedures of the Operational Risk Management unit ("ORM") within the Group Chief Risk Office.<sup>34</sup> If an adverse Model Validation finding cannot be resolved, the Model Owner would work with MVC and ORM to submit the finding for risk acceptance in accordance with ORM policies and procedures.<sup>35</sup>

<sup>11</sup> Notice, 82 at 32031.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> Notice, 82 at 32031–32.

<sup>15</sup> Notice, 82 at 32032.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

### E. Model Approval Process

The Framework would outline the approval process applicable to all new Models. All new Clearing Agency Models, and all material changes to existing Clearing Agency Models, would undergo Model Validation by MVC and must be approved prior to business use.<sup>36</sup> If the Model's materiality is "Medium" or "High," such Model Validation would be reviewed by the MRGC and recommended by the MRGC to the Clearing Agencies' management level committee responsible for Model Risk management matters, the Management Risk Committee ("MRC"), for approval.<sup>37</sup>

Regarding any proposed change to any backtesting methodology, prior to implementation thereof (and before any reporting thereof in any management and regulatory report), the Framework would provide that a description of the proposed change and impact study results would be presented to the MRGC for review and approval.<sup>38</sup> If the impact study results reflect that implementation of the methodology would negatively impact any existing risk tolerance threshold range, such results would be escalated by the MRGC to the MRC, and subsequently to the Board Risk Committee ("BRC"), for approval prior to implementation.<sup>39</sup>

The Framework would provide that provisional approvals with respect to new Clearing Agency Models and material changes to existing Clearing Agency Models may be issued to allow a Model to be published for urgent business use prior to MVC's Model Validation.<sup>40</sup> Provisional approval requests for a Model along with appropriate control measures would be presented by the applicable Model Owners to MVC and the MRGC for review.<sup>41</sup> The Framework would provide that Models would be provisionally approved by MVC for a limited period, not to exceed six months unless also approved by the MRGC.<sup>42</sup> MVC would track all such provisional approvals and oversee compliance with control measures and provisional approval periods.<sup>43</sup>

The Framework would state that each periodic Model Validation would be presented to the MRGC for its review, and its recommendation for approval to

the MRC.<sup>44</sup> The Framework would further provide that MRC approval must be obtained in order for any such periodic validation to be deemed complete.<sup>45</sup>

### F. Model Performance Procedures

The Framework would state that MVC would be responsible for Model performance monitoring and for each Clearing Agency's backtesting process.<sup>46</sup> The MRGC would be the primary forum for MVC's regular reporting of Model Validation activities and material Model Risks identified through regular Model performance monitoring.<sup>47</sup> Reports and recommendations with respect to Model Risk management would be made to the MRC.<sup>48</sup>

The Framework would describe that periodic reporting to the BRC of each Clearing Agency with regard to Model Risk matters may include:

- Updates of Model Validation findings and the status of annual validations;
- updates on significant Model Risk matters, and on compliance matters with respect to Model Risk policies and procedures (including the Framework); and
- escalation of Model Risk matters as set forth in the market risk tolerance statement, which establishes the Clearing Agencies' Model Risk tolerances ("Market Risk Tolerance Statement"), and subsequent, regular updates with respect thereto.<sup>49</sup>

The Framework would provide that MVC would prepare Model performance monitoring reports on both a monthly and daily basis.<sup>50</sup> On a monthly basis, MVC would (i) perform sensitivity analysis on each of the CCP's margin Model, (ii) review the key parameters and assumptions for backtesting, and (iii) consider modifications to ensure the backtesting practices of FICC and NSCC, as CCPs, are appropriate for determining the adequacy of the applicable CCP's margin resources.<sup>51</sup>

The Framework would state that MRGC would review the Model performance monitoring, which includes review of risk-based Models

used to calculate margin requirements and relevant parameters/threshold indicators, sensitivity analysis, and Model backtesting results.<sup>52</sup> Serious performance concerns would be escalated to the MRC.<sup>53</sup>

The Framework would further state that, in circumstances where the products cleared or the markets served by one or both of the CCPs display high volatility or become less liquid, or when the size or concentration of positions held by the applicable CCP's members increases or decreases significantly, such sensitivity analysis and review of key Model parameters and assumptions would be conducted more frequently than monthly.<sup>54</sup>

The Framework would provide that VaR and Clearing Fund requirement ("CFR") coverage backtesting for the CCPs would be performed by MVC on a daily basis or more frequently.<sup>55</sup> CFR coverage would be backtested on an overall basis and for individual members and families of affiliated members.<sup>56</sup> DTC backtesting would be performed by MVC on a daily basis for collateral group<sup>57</sup> collateral monitor coverage, collateral group level haircut<sup>58</sup> coverage, and security-level haircut coverage.<sup>59</sup> The Framework would provide that thresholds for all backtests would be established for the rolling 12-month period coverage and calculated as the number of instances without deficiency over the total number of backtest instances, where deficiency is defined as the loss amount that exceeds the measure being tested (*i.e.*, VaR, CFR, collateral monitor, or

<sup>52</sup> *Id.*

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> *Id.* To mitigate default risk, FICC and NSCC collect funds from their members to maintain sufficient financial resources in the event a member or members default on their obligations. Those funds are held by FICC and NSCC in their respective Clearing Funds. As compared to the CFR, VaR Model backtesting tests Model performance at a specified confidence level, while the CFR backtesting tests margin sufficiency in case of a member default.

<sup>56</sup> Notice, 82 at 32033.

<sup>57</sup> A DTC Participant with multiple accounts may group its accounts into "families" (*i.e.*, "collateral groups") and instruct DTC to allocate a specified portion of its overall Collateral Monitor and Net Debit Cap to each family. All accounts that a Participant designates as belonging to a common collateral group share a single Collateral Monitor and single Net Debit Cap. See Securities Exchange Act Release No. 38201 (January 23, 1997), 62 FR 4561 (January 30, 1997) (SR-DTC-96-17).

<sup>58</sup> A haircut represents a percentage decrease applied to a Security's Market Value solely for purposes of determining the collateral value of the Security. See DTC Settlement Service Guide, available at <http://www.dtcc.com/~media/Files/Downloads/legal/service-guides/Settlement.pdf>, at 5.

<sup>59</sup> Notice, 82 at 32033.

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> *Id.*

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.* The Clearing Agencies define 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 Value at Risk ("VaR") Model's predictive power.

<sup>47</sup> Notice, 82 at 32033.

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

haircut rate). Thresholds would be set as follows:<sup>60</sup>

Applicable to	Backtesting risk metrics	Threshold (%)
CCPs (FICC and NSCC)	Overall CFR Coverage	99
	VaR Model Coverage	99
	Member Level CFR Coverage	99
	Family Level CFR Coverage	99
DTC	Collateral Group Collateral Monitor Coverage	99
	Collateral Group Level Haircut Coverage	99
	Security-Level Haircut Coverage	95

The Framework would provide that the CFR coverage thresholds for FICC and NSCC would be based on applicable regulatory requirements that require them, as CCPs, to cover their credit exposure to their participants by establishing a risk-based margin system that, among other things calculates margin sufficient to cover their potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default.<sup>61</sup> As for DTC, which is not a CCP, the Framework would provide that the collateral group collateral monitor coverage threshold, among other controls, would be set to support the requirement that DTC maintain sufficient financial resources to cover its credit exposures to each participant fully with a high degree of confidence.<sup>62</sup> Meanwhile, the “VaR Model Coverage,” “Collateral Group Level Haircut Coverage,” and “Security-Level Haircut Coverage” would be set and designed for Model performance monitoring purposes.<sup>63</sup>

The Framework would provide that, on at least a monthly basis, the key metrics relating to Model backtesting would be reviewed by the Market and Liquidity Risk Management unit within the Group Chief Risk Office and MVC, and reported to the MRC.<sup>64</sup> Threshold breaches would be reviewed by the Managing Directors within the Financial Risk Management area (including the Market and Liquidity Risk Management unit) of the Group Chief Risk Office, and in the case of CFR coverage breaches by the CCPs and collateral group collateral monitor coverage by DTC, escalated to the BRC in accordance with the Market Risk Tolerance Statement.<sup>65</sup>

The Framework would state that the Managing Director of the Market and

Liquidity Risk Management unit within the Group Chief Risk Office would be responsible for reviewing the Market Risk Tolerance Statement at least annually.<sup>66</sup> The BRC would review and approve the Market Risk Tolerance Statement at least annually.<sup>67</sup>

The Framework would provide that all Model performance concerns would be escalated by MVC to the MRGC, including Model performance enhancement concerns.<sup>68</sup> The MRGC may further recommend certain such matters for further escalation to the MRC, the BRC, or both.<sup>69</sup>

**II. Discussion of Commission Findings**

Section 19(b)(2)(C) of the Act 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.<sup>70</sup> After carefully considering the Proposed Rule Changes, the Commission finds that the Proposed Rule Changes are consistent with the requirements of the Act and the rules and regulations thereunder applicable to the Clearing Agencies. In particular, the Commission believes the proposal is consistent with Section 17A(b)(3)(F) of the Act,<sup>71</sup> as well as Rules 17Ad-22(e)(4)(vii), 17Ad-22(e)(6)(vi) and (vii), and 17Ad-22(e)(7)(vii) thereunder.<sup>72</sup>

*A. Consistency With Section 17A(b)(3)(F) of the Act*

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 and control of the Clearing Agencies or for which they are responsible.<sup>73</sup>

The Commission believes that by establishing and describing in the proposed Framework (i) governance of the Framework; (ii) key terms; (iii) Model Inventory procedures; (iv) Model Validation procedures; (v) Model approval process; and (vi) Model performance procedures, as described above, the proposal is designed to help safeguard securities and funds in the Clearing Agencies’ custody and control. Specifically, the comprehensive nature of the practices described in the Framework, both individually and collectively, are designed to help improve the Clearing Agencies’ ability to determine and evaluate the risk presented by many of the Clearing Agencies’ members by measuring, monitoring, and managing the risks from using quantitative Models. Clearly documenting the Clearing Agencies’ ability to evaluate risk in the proposed Framework could enable the Clearing Agencies to deploy more effectively their risk management tools to manage the credit, market, and liquidity risks presented by such members. By enabling the Clearing Agencies to use their risk management tools more effectively, the proposed Framework is designed to help mitigate the risk that the Clearing Agencies would suffer a loss from a member default. Therefore, the Commission believes that these Proposed Rule Changes are designed to help safeguard funds within the Clearing Agencies’ custody and control, consistent with Section 17A(b)(3)(F) of the Act.<sup>74</sup>

*B. Consistency With Rule 17Ad-22(e)(4)(vii)*

The Commission believes that the changes proposed in the Proposed Rule Changes are consistent with Rule 17Ad-22(e)(4)(vii) under the Act, which

<sup>60</sup> *Id.*  
<sup>61</sup> *Id.*; see 17 CFR 240.17Ad-22(e)(6)(iii). 17 CFR 240.17Ad-22(a)(13) defines the term “potential future exposure” to mean the maximum exposure estimated to occur at a future point in time with an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure.

<sup>62</sup> Notice, 82 at 32033.  
<sup>63</sup> *Id.*  
<sup>64</sup> Notice, 82 at 32034.  
<sup>65</sup> *Id.*  
<sup>66</sup> *Id.*  
<sup>67</sup> *Id.*  
<sup>68</sup> *Id.*

<sup>69</sup> *Id.*  
<sup>70</sup> 15 U.S.C. 78s(b)(2)(C).  
<sup>71</sup> 15 U.S.C. 78q-1(b)(3)(F).  
<sup>72</sup> 17 CFR 240.17Ad-22(e)(4)(vii), (e)(6)(vi) and (vii), and (e)(7)(vii).  
<sup>73</sup> 15 U.S.C. 78q-1(b)(3)(F).  
<sup>74</sup> *Id.*

requires, in part, that the Clearing Agencies establish, implement, maintain and enforce written policies and procedures reasonably designed to effectively identify, measure, monitor, and manage their credit exposures to participants and those arising from their payment, clearing, and settlement processes by performing a Model Validation for their credit risk Models not less than annually or more frequently as may be contemplated by the Framework.<sup>75</sup>

As discussed above, the Framework would provide for validation of quantitative credit-risk Models. The Framework would describe the procedures for conducting a Model Inventory to determine which Models should be reviewed. The Framework would then describe the process for reviewing such Models, before they are implemented, so that the Clearing Agencies can ensure that their credit exposures are effectively and efficiently modeled. The Framework would further describe the validation process for the review of existing quantitative credit-risk Models to determine whether the Models accurately capture the Clearing Agencies' credit exposures, which would be performed not less than annually. Because the proposal is designed to meet the requirements of Rule 17Ad-22(e)(4)(vii) by establishing the proposed Framework for performing a Model Validation for the Clearing Agencies' credit risk Models, the Commission believes the Proposed Rule Changes are consistent with Rule 17Ad-22(e)(4)(vii) under the Act.<sup>76</sup>

#### C. Consistency With Rule 17Ad-22(e)(6)(vi) and (vii)

The Commission believes that the changes proposed in the Proposed Rule Changes are consistent with Rules 17Ad-22(e)(6) under the Act, specifically paragraphs (vi) and (vii) thereunder, as discussed below.<sup>77</sup>

Rule 17Ad-22(e)(6)(vi) under the Act requires, in part, that the Clearing Agencies that provide CCP services (*i.e.*, FICC and NSCC) establish, implement, maintain and enforce written policies and procedures reasonably designed to cover their credit exposures to their participants by establishing a risk-based margin system that at minimum is monitored by management on an ongoing basis and is regularly reviewed, tested, and verified by (A) conducting backtests of their margin Models at least once each day using standard predetermined parameters and

assumptions; (B) conducting a sensitivity analysis of their margin Models and a review of their parameters and assumptions for backtesting on at least a monthly basis, and considering modifications to ensure the backtesting practices are appropriate for determining the adequacy of the their margin resources; (C) conducting a sensitivity analysis of their margin Models and a review of their parameters and assumptions for backtesting more frequently than monthly during periods of time when the products cleared or markets served display high volatility or become less liquid, or when the size or concentration of positions held by their participants increases or decreases significantly; and (D) reporting the results of their analyses to appropriate decision makers at the clearing agencies, including but not limited to, their risk management committee or board of directors, and using these results to evaluate the adequacy of and adjust their margin methodology, Model parameters, and any other relevant aspects of their credit risk management framework.<sup>78</sup>

As discussed above, the Framework would provide that FICC and NSCC, as CCPs, would (a) perform VaR and CFR backtesting on a daily basis using standard predetermined parameters and assumptions; (b) as part of Model performance monitoring, on at least a monthly basis, perform sensitivity analysis on each of the margin Models of FICC and NSCC, review the key parameters and assumptions for backtesting, and consider modifications to ensure the backtesting practices of FICC and NSCC are appropriate for determining the adequacy of the applicable CCP's margin resources; (c) in circumstances where the products cleared or the markets served by FICC, NSCC, or both display high volatility or become less liquid, or when the size or concentration of positions held by the applicable CCP's members increases or decreases significantly, conduct sensitivity analysis and review of key Model parameters and assumptions more frequently than monthly; and (d) report the results of their analyses under (b) and (c) to key decision makers, including but not limited to, the MRC, the BRC, or both, which could use these results to evaluate the adequacy of and adjust their margin methodology, Model parameters, and any other relevant aspects of their credit risk management framework. By establishing the proposed Framework for a risk-based margin system to help cover the credit exposures of FICC and NSCC, as CCPs,

that, at minimum, is monitored by management on an ongoing basis and is designed to address each of the enumerated requirements of Rule 17Ad-22(e)(6)(vi), the Commission believes the Proposed Rule Changes are consistent with Rule 17Ad-22(e)(6)(vi).<sup>79</sup>

Rule 17Ad-22(e)(6)(vii) under the Act requires, in part, that the Clearing Agencies that provide CCP services (*i.e.*, FICC and NSCC) establish, implement, maintain and enforce written policies and procedures reasonably designed to cover their credit exposures to their participants by establishing a risk-based margin system that at minimum requires a model validation for their margin systems and related models to be performed not less than annually, or more frequently as may be contemplated by their risk management framework.<sup>80</sup>

As discussed above, the Framework would describe FICC and NSCC's processes for determining which Models they should validate, including margin risk Models. After determining which Models to validate, FICC and NSCC would use the Model Validation processes for their margin systems and related Models, which would be performed not less than annually. In certain cases, FICC and NSCC may determine extra Model Validation activities are warranted based on previous Model Validation work and findings, changes in market conditions, or because a particular Model warrants extra validation. Because the proposal is designed to meet the requirements of Rule 17Ad-22(e)(6)(vii) by establishing the proposed Framework for a risk-based margin system to help cover the credit exposures of FICC and NSCC, as CCPs, that, at minimum, requires a Model Validation for the their margin systems and related Models to be performed not less than annually, the Commission believes the Proposed Rule Changes are consistent with Rule 17Ad-22(e)(6)(vii).<sup>81</sup>

#### D. Consistency With Rule 17Ad-22(e)(7)(vii)

The Commission believes that the changes proposed in the Proposed Rule Changes are consistent with Rule 17Ad-22(e)(7)(vii) under the Act, which requires, in part, that the Clearing Agencies establish, implement, maintain and enforce written policies and procedures reasonably designed to effectively measure, monitor, and manage the liquidity risk that arises in or is borne by the Clearing Agencies,

<sup>75</sup> 17 CFR 240.17Ad-22(e)(4)(vii).

<sup>76</sup> *Id.*

<sup>77</sup> 17 CFR 240.17Ad-22(e)(6).

<sup>78</sup> 17 CFR 240.17Ad-22(e)(6).

<sup>79</sup> *Id.*

<sup>80</sup> 17 CFR 240.17Ad-22(e)(6)(vii).

<sup>81</sup> *Id.*

including measuring, monitoring, and managing their settlement and funding flows on an ongoing and timely basis, and their use of intraday liquidity by performing a Model Validation of their liquidity risk Models not less than annually or more frequently as may be contemplated by their risk management framework.<sup>82</sup>

As discussed above, the Framework would describe the Clearing Agencies' process for determining which Models they should validate, including liquidity risk Models. After determining which Models to validate, the Clearing Agencies would use the Model Validation processes for their margin systems and related Models, which would be performed not less than annually. In certain cases, the Clearing Agencies may determine extra Model Validation activities are warranted based on previous Model Validation work and findings, changes in market conditions, or because a particular Model warrants extra validation. Because the proposal is designed to meet the requirements of Rule 17Ad-22(e)(7)(vii) by establishing the proposed Framework to help measure, monitor, and manage the Clearing Agencies' settlement and funding flows on an ongoing and timely basis, and the Clearing Agencies' use of intraday liquidity by performing a Model Validation of their liquidity risk Models not less than annually, the Commission believes the Proposed Rule Changes are consistent with Rule 17Ad-22(e)(7)(vii) under the Act.<sup>83</sup>

### III. Conclusion

On the basis of the foregoing, the Commission finds that the Proposed Rule Changes are consistent with the requirements of the Act, in particular the requirements of Section 17A of the Act<sup>84</sup> and the rules and regulations promulgated thereunder. *It is therefore ordered*, pursuant to Section 19(b)(2) of the Act, that proposed rule changes SR-DTC-2017-008, SR-FICC-2017-014, and SR-NSCC-2017-008 be, and hereby are, *approved*.<sup>85</sup>

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>86</sup>

**Eduardo A. Aleman,**

*Assistant Secretary.*

[FR Doc. 2017-18448 Filed 8-30-17; 8:45 am]

**BILLING CODE 8011-01-P**

## SECURITIES AND EXCHANGE COMMISSION

[Release No. 34-81487; File No. SR-LCH SA-2017-006]

### Self-Regulatory Organizations; LCH SA; Notice of Filing of Proposed Rule Change Relating to Options on Index Credit Default Swaps

August 25, 2017.

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> notice is hereby given that on, August 18, 2017, Banque Centrale de Compensation, which conducts business under the name LCH SA ("LCH SA"), filed with the Securities and Exchange Commission ("Commission") the proposed rule change described in Items I, II, and III below, which Items have been prepared primarily by LCH SA. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

#### I. Clearing Agency's Statement of the Terms of Substance of the Proposed Rule Change

LCH SA is proposing to amend its (i) CDS Clearing Rule Book (the "Rule Book"), (ii) CDS Clearing Supplement (the "Clearing Supplement"), (iii) CDS Clearing Procedures (the "Procedures"), and (iv) CDS Dispute Resolution Protocol (the "Dispute Resolution Protocol"), to incorporate terms and to make conforming and clarifying changes to allow options on index credit default swaps ("CDS") to be cleared by LCH SA.<sup>3</sup>

#### II. Clearing Agency's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, LCH SA included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified

in Item IV below. LCH SA has prepared summaries, set forth in sections A, B, and C below, of the most significant aspects of these statements.

#### A. Clearing Agency's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

##### 1. Purpose

The purpose of the proposed rule change is to revise LCH SA's rules and procedures to allow LCH SA to clear options on index CDS. An option on index CDS is a contract that gives the option buyer the right (and not the obligation) to enter into a specified index CDS contract (*i.e.*, the underlying) with the option seller at a predefined exercise price called the strike. Upon the launch of clearing options on index CDS, LCH SA will provide central counterparty services for options on index CDS that are accepted for clearing and become the option seller for each option buyer and the option buyer for each option seller with respect to an option on index CDS novated by LCH SA.

The terms of the option contract on index CDS will provide the buyer the right to sell or buy protection on the underlying index CDS at expiry of the option. The index CDS resulting from the exercise of the option will be automatically cleared by LCH SA as the central counterparty. A credit event (including a restructuring event) may occur with respect to a constituent of an underlying index. If the credit event occurs before the option expiry, such credit event may affect the option buyer's decision regarding whether to exercise the option upon expiry. On the other hand, if a credit event occurs after the buyer has exercised the option, a cleared index CDS contract has been created from the option exercise and the situation would be the same as a credit event occurring to any other index CDS contract currently cleared by LCH SA.

Initially, LCH SA proposes to include European index CDS currently cleared by CDS Clear as the underlying, *i.e.*, CDS on Markit iTraxx Europe Index and iTraxx Crossover Index, and may subsequently extend the underlying to include other index CDS contracts cleared by LCH SA, such as CDS on iTraxx Senior Financial Index, CDX NA IG, and CDX NA HY, subject to additional regulatory approvals, if necessary.

Each of the changes is described in further detail below.

<sup>82</sup> 17 CFR 240.17Ad-22(e)(7)(vii).

<sup>83</sup> *Id.*

<sup>84</sup> 15 U.S.C. 78q-1.

<sup>85</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>86</sup> 17 CFR 200.30-3(a)(12).

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

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

<sup>3</sup> Capitalized terms used but not defined herein shall have the meaning specified in the Rule Book, Clearing Supplement, Procedures, and Dispute Resolution Protocol, as applicable.