THE FOUNDATION FOR SECURE MARKETS

Options Clearing Corporation
125 S. Franklin Street, Suite 1200
Chicago, IL 60606
312 322 6200 | theocc.com

November 19, 2019

VIA ELECTRONIC MAIL
Christopher J. Kirkpatrick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, DC 20581

Re: Rule Filing SR-OCC-2019-009 Rule Certification

Dear Secretary Kirkpatrick:

Pursuant to Section 5c(c)(1) of the Commodity Exchange Act, as amended ("Act"), and Commodity Futures Trading Commission ("CFTC") Regulation 40.6, enclosed is a copy of the above-referenced rule filing submitted by The Options Clearing Corporation ("OCC"). The date of implementation of the rule is at least 10 business days following receipt of the rule filing by the CFTC or the date the proposed rule is approved by the Securities and Exchange Commission ("SEC") or otherwise becomes effective under the Securities Exchange Act of 1934 (the "Exchange Act"). This rule filing has been submitted to the SEC under the Exchange Act.

OCC has requested confidential treatment for Exhibits 3 and 5B - 5C to SR-OCC-2019-009 (contained in pages 80-105 and 109-170 of SR-OCC-2019-009).

In conformity with the requirements of Regulation 40.6(a)(7), OCC states the following:

Explanation and Analysis

The proposed rule change by OCC concerns enhancements to OCC's Clearing Fund and stress testing methodology. Specifically, the proposed changes would: (1) incorporate a new set of stress test scenarios to be used in the monthly sizing of OCC's Clearing Fund that are designed to capture the risks of extreme moves in individual or small subsets of securities; (2) enhance OCC's stress testing methodology for modeling certain volatility index futures; (3) modify OCC's methodology for allocating Clearing Fund contribution requirements to standardize the margin risk component of the allocation formula for all Clearing Members; (4) adopt an additional threshold for notifying senior management of intra-day margin calls based on certain stress test results; (5) correct certain rules concerning OCC's cooling-off period and replenishment/assessment powers; and (6) make other clarifying and conforming changes to OCC's Rules, Clearing Fund Methodology Policy ("Policy"), and Stress Testing and Clearing Fund Methodology Description ("Methodology Description").

The proposed amendments to OCC's Rules can be found in Exhibit 5A. Proposed changes to the Policy can be found in Exhibit 5B. Proposed changes to the Methodology Description can be found in Exhibit 5C. Material proposed to be added to the Rules, Policy, and Methodology Description as currently in effect is marked by underlining, and material proposed to be deleted is marked in strikethrough text.

All terms with initial capitalization not defined herein have the same meaning as set forth in OCC's By-Laws and Rules.[1]

Background

In September 2018, OCC implemented new rules for sizing and monitoring its Clearing Fund and overall Pre-Funded Financial Resources,[2] which included the adoption of a new Policy and Methodology Description.[3] Under the requirements of the Policy, OCC bases its determination of the Clearing Fund size on the results of stress tests conducted daily using standard predetermined parameters and assumptions. These daily stress tests consider a range of relevant stress scenarios and possible price changes in liquidation periods, including but not limited to: (1) relevant peak historic price volatilities; (2) shifts in other market factors including, as appropriate, price determinants and yield curves; and (3) the default of one or multiple Clearing Members. OCC also conducts reverse stress tests for informational purposes aimed at identifying extreme default scenarios and extreme market conditions for which the OCC's financial resources may be insufficient.

As described in the Methodology Description, the newly adopted methodology includes two types of scenarios: "Historical Scenarios" and "Hypothetical Scenarios." Historical Scenarios intend to replicate historical events in current market conditions, which includes the set of currently existing securities, their prices, and volatility levels. These scenarios provide OCC with information regarding pre-defined reference points determined to be relevant benchmarks for assessing OCC's exposure to Clearing Members and the adequacy of its financial resources. Hypothetical Scenarios represent events in which market conditions change in ways that have not yet been observed. The Hypothetical Scenarios are derived using statistical methods (e.g., draws from estimated multivariate

---

1 OCC's By-Laws and Rules can be found on OCC's public website: http://optionsclearing.com/about/publications/bylaws.jsp.

2 The Policy defines OCC's "Pre-Funded Financial Resources" to mean margin of the defaulted Clearing Member and the required Clearing Fund less any deficits, exclusive of OCC's assessment powers.

3 On July 26, 2018, the SEC issued a Notice of No Objection to an advance notice by OCC concerning the adoption of a new stress testing and Clearing Fund methodology. See Securities Exchange Act Release No. 83714 (July 26, 2018), 83 FR 37570 (August 1, 2018) (SR-OCC-2018-803). On July 27, 2018, the SEC approved a proposed rule change by OCC concerning the same proposal. See Securities Exchange Act Release No. 83735 (July 27, 2018), 83 FR 37855 (August 2, 2018) (SR-OCC-2018-008). These changes were certified with the CFTC on August 20, 2018.

distributions) or created based on a mix of statistical techniques and expert judgment (e.g., a 15% decline in market prices and 50% increase in volatility). These scenarios give OCC the ability to change the distribution and level of stress in ways necessary to produce an effective forward-looking stress testing methodology. OCC uses these pre-determined stress scenarios in stress tests, conducted on a daily basis, to determine OCC's risk exposure to each Clearing Member Group by simulating the profits and losses of the positions in their respective account portfolios under each such stress scenario.

Under the Policy and Methodology Description, OCC performs daily stress testing using a wide range of scenarios, both Hypothetical and Historical, designed to serve multiple purposes. OCC's proposed stress testing inventory contains scenarios designed to: (1) determine whether the financial resources collected from all Clearing Members collectively are adequate to cover OCC's risk tolerance ("Adequacy Scenarios," and such scenarios collectively constituting "Adequacy Stress Tests"); (2) establish the monthly size of the Clearing Fund necessary for OCC to maintain sufficient Pre-Funded Financial Resources to cover losses arising from the default of the two Clearing Member Groups that would potentially cause the largest aggregate credit exposure to OCC as a result of a 1-in-80 year hypothetical market event ("Sizing Scenarios," and such scenarios collectively constituting "Sizing Stress Tests"); (3) measure the exposure of the Clearing Fund to the portfolios of individual Clearing Member Groups, and determine whether any such exposure is sufficiently large as to necessitate OCC calling for additional resources so that OCC continues to maintain sufficient financial resources to guard against potential losses under a wide range of stress scenarios, including extreme but plausible market conditions ("Sufficiency Scenarios," and such scenarios collectively constituting "Sufficiency Stress Tests");[4] and (4) monitor and assess the size of OCC's Pre-Funded Financial Resources against a wide range of stress scenarios that may include extreme but implausible and reverse stress testing scenarios ("Informational Scenarios," and such scenarios collectively constituting "Informational Stress Tests").[5]

---

[4] Under OCC Rule 609, the Policy, and the Methodology Description, if a Sufficiency Stress Test identifies exposures that exceed 75% of the current Clearing Fund requirement less deficits (the "75% threshold" or "Sufficiency Stress Test Threshold 1"), OCC may require additional margin deposits from the Clearing Member Group(s) driving the breach. All such margin calls must be approved by a Vice President (or higher) of OCC's Financial Risk Management department ("FRM"); however, if the margin call imposed on an individual Clearing Member exceeds $500 million, OCC's Stress Testing and Liquidity Risk Management group ("STLRM") must provide written notification to OCC's Executive Chairman, Chief Executive Officer, and Chief Operating Officer (collectively referred to as the "Office of the Chief Executive Officer" or "OCEO"). Additionally, under Rule 1001(c) (and as described in the Policy and Methodology Description), if a Sufficiency Stress Test were to identify a Clearing Fund Draw for any one or two Clearing Member Groups that exceed 90% of the current Clearing Fund size (after subtracting any monies deposited as a result of a margin call in accordance with a breach of Sufficiency Stress Test Threshold 1), OCC has the authority to effect an intra-month resizing of the Clearing Fund to ensure that it continues to maintain sufficient prefunded financial resources. See supra note 3.

[5] OCC notes that its Adequacy and Informational Stress Tests are not used to size the Clearing Fund or drive calls for additional financial resources.

In addition, under the Rules, Policy, and Methodology Description, individual Clearing Members' Clearing Fund contribution requirements are determined using a risk-based allocation methodology of 70% "total risk," 15% volume, and 15% open interest using a one-month look-back period. For purposes of allocating Clearing Fund contributions, "total risk" is defined to mean the margin requirement calculated and reported by OCC with respect to all accounts of a Clearing Member less the net asset value of the positions in such accounts aggregated across all such accounts.

Proposed Changes

OCC proposes to enhance its Clearing Fund and stress testing framework by: (1) adopting a new set of stress scenarios to be used in the monthly sizing of OCC's Clearing Fund that are designed to capture the risks of extreme moves in individual or small subsets of securities ("Idiosyncratic Scenarios"); (2) improving its model for determining price shocks for futures on the Cboe Volatility Index ("VIX")[6] (such futures contracts hereinafter referred to as "VIX futures"); (3) modifying the methodology for allocating Clearing Fund contribution requirements to standardize the margin risk component of the allocation formula for all Clearing Members; (4) adopting an additional threshold for notifying senior management of certain intra-day margin calls based on Sufficiency Stress Test results; (5) correcting certain rules concerning OCC's cooling-off period and replenishment/assessment powers; and (6) making certain other clarifying and conforming changes to OCC's Rules, Policy, and Methodology Description. The proposed changes are described in detail below.

1. Introduction of Idiosyncratic Scenarios in Sizing Stress Tests

OCC proposes to revise its Policy and Methodology Description to incorporate into its inventory of Sizing Stress Tests a new set of Idiosyncratic Scenarios that are designed to capture the risks of extreme moves in individual or small subsets of securities. As noted above, OCC's Sizing Stress Tests are used to establish the monthly size of the Clearing Fund necessary for OCC to maintain sufficient Pre-Funded Financial Resources to cover losses arising from the default of the two Clearing Member Groups that would potentially cause the largest aggregate credit exposure to OCC in extreme but plausible market conditions. The proposed Idiosyncratic Scenarios would supplement OCC's current set of Sizing Scenarios (which are generally designed to estimate risk exposures arising from more broad-based market and systemic shocks ("Systemic Scenarios") and would allow OCC to identify forward-looking, non-systemic market events that may impact its Pre-Funded Financial Resource requirements. Like other Sizing Scenarios, the proposed Idiosyncratic Scenarios may be used to determine the monthly size of Clearing Fund when projected exposures from the Idiosyncratic Scenarios are greater than OCC's other Sizing Scenarios.

---

[6] The VIX is an index designed to measure the 30-day expected volatility of the Standard & Poor's 500 index ("SPX").

The proposed Idiosyncratic Scenarios are designed to capture the risk of extreme non-systemic market moves on single-name securities through individual rally and decline shocks. Under the proposed methodology for Idiosyncratic Scenarios, every single-name equity (i.e., excluding exchange-traded funds, exchange-traded notes, indices, and non-equity products) in a portfolio is shocked by a fixed extreme idiosyncratic up and down move. In order to determine these fixed shocks, single-name equities would be classified as either large or small capitalization (referred to herein as "large cap" and "small cap," respectively) and the shocks would be constructed based on the market capitalization classification and direction of the price (e.g., the four potential idiosyncratic moves would be large cap up, large cap down, small cap up, and small cap down. The fixed price shocks would be calibrated from historical price return data such that the probability of the idiosyncratic moves is comparable to OCC's Systemic Sizing Scenarios and the probability in all four scenarios would be approximately equal. The profit and loss (P/L) contribution for each name is then calculated for the portfolio using both up and down moves, and the worst loss from the two P/L moves is chosen as the direction of the idiosyncratic move for each name. Next, the four names with the worst P/L (along with the direction of extreme move) are chosen for the portfolio, providing the four names for every portfolio within a Clearing Member Group. Then the risk exposure (P/L) is aggregated at the Clearing Member Group-level using each set of four names. The worst shortfall generated is the idiosyncratic risk of the Clearing Member Group, and the largest two Clearing Member Group exposures are used to determine the Cover 2 Idiosyncratic Scenario Clearing Fund size.

OCC believes that implementing the proposed Idiosyncratic Scenarios would enhance OCC's stress testing methodology and overall resiliency by providing a more comprehensive suite of Sizing Stress Tests to ensure that OCC maintains an appropriate level of Pre-Funded Financial Resources to cover its credit exposures under scenarios addressing both systemic market risks and idiosyncratic risks.

2. Enhancements for Modeling Shocks on VIX Futures

OCC also proposes to enhance its methodology for modeling price shocks for VIX futures. Under OCC's current stress testing methodology, prices shocks for VIX futures are equivalent to the price shock for the underlying VIX index. OCC believes that this approach is unrealistic in that it produces a uniform shock across expirations of the VIX futures contract, which leads to an overestimation of VIX futures price shocks, particularly in market decline scenarios. Futures contracts for different expirations generally trade at different prices reflecting the differing future price expectations of the underlying asset.[7] Accordingly, OCC believes that the size of the price

[7] When there is a large shock to the VIX it has consistently been observed that the change in price of near-term VIX future contracts is much larger than for further out expirations. For instance, on 2/5/2018 when the near-term VIX future contract expiring on 2/16/2018 increased by 113% the following standard expirations increased by less: 87% for 3/21/2018; 64% for 4/18/2018; 37% for 5/16/2018; and less than 30% for all further expirations. For all other days within the past 5 years

shocks produced by its stress testing methodology should vary based on the expiration of each contract as is more realistically observed in the market.

OCC proposes to enhance its stress testing methodology (and specifically, Section 3.4 of the Methodology Description) by using SPX at-the-money implied volatility shocks across different expirations to model forward volatility to generate shocks for VIX futures contracts for the corresponding expirations. OCC believes the proposed model enhancements would produce more appropriate VIX futures price shocks in its stress scenarios because it would produce differing price shocks across the term structure as is generally observed in the market.[8] For example, OCC has observed that VIX futures price shocks obtained from the enhanced model for varying expirations is similar to the actual VIX futures market prices when tested on historical stress periods. Additionally, because VIX futures are used to calculate theoretical values for VIX options, OCC believes the proposed enhancement would improve the pricing of both VIX futures and VIX options in OCC's stress testing methodology.

3. Modifications to Clearing Fund Allocation Weighting Methodology

OCC proposes to modify its allocation methodology for determining individual Clearing Members' Clearing Fund requirements. As part of OCC's recently adopted stress testing and Clearing Fund methodology, OCC moved to a more risk-based method for allocating Clearing Fund requirements.[9] Clearing Fund allocations are currently based on a weighting of 70% margin risk, 15% open interest, and 15% cleared volume. The margin risk component of the allocation formula, known as "total risk," is based on the total margin requirement calculated and reported by OCC with respect to all accounts of a Clearing Member less the net asset value of the positions in such accounts aggregated across all such accounts over a one-month look-back period compared to the aggregate of total risk across all Clearing Members.[10] While the majority of margin requirements used in the allocation formula are STANS-based margin requirements,[11] certain Clearing Members' accounts (and thus their allocations) are more heavily impacted by margin requirements calculated using the Standard Portfolio Analysis of Risk Margin Calculation System ("SPAN") that reflects

---

with one-day VIX increases of over 45%, similar patterns were observed of a decreasing VIX future term structure of shocks (8/21/2015, 8/24/2015, 6/24/2016 and 5/17/2017).

8 Id.

9 See supra note 3.

10 See OCC Rule 1003(b)(i). OCC removes net asset value from the "total risk" component of the allocation formula because it does not reflect a risk measure but rather represents the value of contracts and collateral held in a Clearing Member's accounts.

11 The System for Theoretical Analysis and Numerical Simulations (or "STANS") is OCC's proprietary risk management system for calculating Clearing Member margin requirements. See Securities Exchange Act Release No. 53322 (February 15, 2006), 71 FR 9403 (February 23, 2006) (SR-OCC-2004-20). A detailed description of the STANS methodology is available at http://optionsclearing.com/risk-management/margins/.

customer gross margining, which may result in higher risk charges than net margining with STANS for the same account.[12]

OCC proposes to standardize the margin or "total risk" component of its Clearing Fund allocation formula for all members by using only the STANS base amount, plus certain add-on charges[13] as may be determined by OCC pursuant to its policies and procedures. OCC believes it is more appropriate to use the same margin risk measurement for all Clearing Members/accounts when determining Clearing Fund allocations since this allows for a more equitable comparison across all accounts through the utilization of a consistent margin methodology. Accordingly, OCC proposes to modify the definition of "total risk" in Rule 1003(b)(i) to mean "a risk measure aggregated across all accounts of a Clearing Member determined using the Corporation's margin methodology and such add-on charges as may be determined pursuant to the Corporation's policies and procedures." OCC also proposes to make conforming to changes to its Policy and Methodology Description to reflect the new definition of "total risk."

4. New Sufficiency Stress Test Notification Threshold

OCC also proposes to adopt a new internal notification threshold for intra-day margin calls resulting from its Sufficiency Stress Tests. Under existing Rule 609, the Policy, and the Methodology Description, if a Sufficiency Stress Test identifies a Clearing Fund Draw[14] for any one or two Clearing Member Groups that exceeds Sufficiency Stress Test Threshold 1, OCC is authorized to issue a margin call against the Clearing Member Group(s) and/or Clearing Member(s)

---

12 Pursuant to OCC Rule 601(e)(1), in addition to STANS-based requirements, OCC calculates initial margin requirements for segregated futures accounts on a gross basis using SPAN. CFTC Rule 39.13(g)(8) requires, in relevant part, that derivatives clearing organizations ("DCOs") collect initial margin for customer segregated futures accounts on a gross basis. While OCC uses SPAN to calculate initial margin requirements for segregated futures accounts on a gross basis, OCC believes that margin requirements calculated on a net basis (i.e., permitting offsets between different customers' positions held by a Clearing Member in a segregated futures account using STANS) affords OCC additional protections at the clearinghouse level against risks associated with liquidating a Clearing Member's segregated futures account. As a result, OCC calculates margin requirements for segregated futures accounts using both SPAN on a gross basis and STANS on a net basis, and if at any time OCC staff observes a segregated futures account where initial margin calculated pursuant to STANS on a net basis exceeds the initial margin calculated pursuant to SPAN on a gross basis, OCC collateralizes this risk exposure by applying an additional margin charge in the amount of such difference to the account. See Securities Exchange Act Release No. 72331 (June 5, 2014), 79 FR 33607 (June 11, 2014) (SR-OCC-2014-13). SPAN is a methodology developed by the Chicago Mercantile Exchange and used by many clearinghouses and exchanges around the world to calculate margin requirements on futures and options on futures.

13 Under OCC's Margin Policy, OCC may collateralize certain exposures that may be modeled outside of STANS using add-on charges.

14 The term "Clearing Fund Draw" refers to an estimated stress loss exposure in excess of margin requirements.

causing the breach.[15] All Sufficiency Stress Test margin calls are required to be approved by a Vice President (or higher) of FRM; however, if the margin call imposed on an individual Clearing Member exceeds $500 million, the STLRM group must provide written notification to the Office of the CEO. If the margin call imposed on an individual Clearing Member would exceed 100% an individual Clearing Member's net capital, the issue is then escalated to the Office of the CEO, and each of the Executive Chairman, Chief Executive Officer, and Chief Operating Officer have the authority to determine whether OCC should continue calling for additional margin in excess of this amount.

OCC proposes to revise the Policy to require that STLRM provide written notification to the Office of the CEO whenever a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital (in addition to the current requirement to provide notification for any margin call exceeding $500 million). OCC believes that this additional notification requirement is appropriate because it will allow OCC's senior management to be informed as soon as practicable of, and to subsequently monitor, circumstances where a margin call may strain a particular Clearing Member's ability to meet such requirements based on its financial condition or the amount of collateral it has available to pledge when certain pre-identified thresholds have been exceeded.[16]

5. Correction of Cooling-Off Period and Replenishment/Assessment Power Rules

OCC proposes several corrections to its Rules and Policy concerning its cooling-off period and Clearing Fund replenishment/assessment powers. As part of OCC's recently approved filings to implement enhanced and new recovery tools ("Recovery Tools Filings"), OCC adopted a minimum 15-day "cooling-off period" with a cap on Clearing Fund assessments.[17] OCC Rule 1006(h) currently provides that the cooling-off period is triggered when any amount is paid out of the

---

15 See supra notes 3 and 4.

16 For example, if a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital, and such Sufficiency Stress Test also results in Clearing Fund draws for any one or two Clearing Member Groups that exceed 90% of the current Clearing Fund size, OCC may choose to resize the Clearing Fund on an intra-month basis rather than continuing to call for additional margin from a Clearing Member whose ability to meet such a call may be strained. See supra notes 3 and 4.

17 On August 23, 2018, the SEC issued a Notice of No Objection to an advance notice by OCC concerning changes to OCC's Rules and By-Laws to enhance OCC's existing tools to address the risks of liquidity shortfalls and credit losses and to establish new tools by which OCC could re-establish a matched book and, if necessary, allocate uncovered losses following the default of a Clearing Member as well as provide for additional financial resources. See Securities Exchange Act Release No. 83927 (August 23, 2018), 83 FR 44083 (August 29, 2018) (SR-OCC-2017-809). On August 23, 2018, the SEC approved a proposed rule change by OCC concerning the same proposal. See Securities Exchange Act Release No. 83916 (August 23, 2018), 83 FR 44076 (August 29, 2018) (SR-OCC-2017-020). These changes were certified with the CFTC on August 14, 2018.

Clearing Fund as a result of a proportionate charge resulting from any of the events described in clauses (i) through (iv) of Rule 1006(a).[18] The actual intention of the Recovery Tools Filings, however, was to capture any proportionate charges related to the default of a Clearing Member,[19] which would also include any use of the Clearing Fund to make good losses or expenses suffered by OCC or as a result of a borrowing by OCC: (1) in connection with protective transactions effected for the account of OCC pursuant to Chapter XI of the Rules and (2) as a result of a failure of any Clearing Member to make any other required payment or render any other required performance (as provided in clauses (v) and (vi) of Rule 1006(a)). OCC therefore proposes to revise its Rules and Policy to more correctly reflect that the cooling-off period and associated assessment caps apply for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a). The proposed rule change would ensure that all proportionate charges associated with a Clearing Member default are treated consistently as was originally intended with the adoption of the cooling-off period and modification of OCC's replenishment/assessment powers in the Recovery Tools Filings.

6. Other Clarifying and Conforming Changes

Finally, OCC proposes a number of clarifying, streamlining, and organizational changes to the Methodology Description that are not intended to change the substance of OCC's stress testing and Clearing Fund methodology, but that OCC believes would improve the clarity and readability of the document. The proposed changes to the Methodology Description are described below.

Proposed Changes to the Executive Summary

OCC proposes to revise the model scope discussion of the executive summary to provide a summary of the netting rules and positions sets used for stress testing and to break out different sections for the discussion of Systemic Scenarios and Idiosyncratic Scenarios. The executive summary would also be revised to provide additional information regarding the key assumptions of

---

[18] These clauses include the following events: (i) failure of any Clearing Member to discharge duly any obligation on or arising from any confirmed trade accepted by the Corporation; (ii) failure of any Clearing Member (including any Appointed Clearing Member) or of CDS to perform its obligations (including its obligations to the correspondent clearing corporation) under or arising from any exercised or assigned option contract or matured future or any other contract or obligation issued, undertaken, or guaranteed by the Corporation or in respect of which the Corporation is otherwise liable; (iii) failure of any Clearing Member to perform any of its obligations to the Corporation in respect of the stock loan and borrow positions of such Clearing Member; and (iv) any liquidation of a Clearing Member's open positions.

[19] See e.g., Securities Exchange Act Release No. 83927 (August 23, 2018), 83 FR 44083, 44077 (August 29, 2018) (SR-OCC-2017-809) (providing that "[t]he proposal would introduce a minimum fifteen calendar day 'cooling-off' period that automatically begins when OCC imposes a proportionate charge related to the default of a Clearing Member against non-defaulting Clearing Members' Clearing Fund contributions.").

OCC's stress testing and Clearing Fund methodology. In addition, the Model Performance section of the executive summary would be revised to provide further information on supporting documentation for OCC's stress testing.

Proposed Changes to the Description of Stress Test Portfolio Construction

OCC also proposes to revise its Methodology Description to provide additional details regarding the construction of stress testing portfolios. For example, the proposed revisions would discuss OCC's process for creating the "Synthetic Accounts" used in stress testing. Clearing Member positions are initially held in "Tier Accounts" that have the same business type (e.g., omnibus customer accounts, combined market maker accounts, firm accounts) and cross-margining relationship with other clearinghouses (if applicable). For the purpose of stress testing, OCC considers liquidation positions, where Tier Account level positions are further aggregated into Synthetic Accounts. The rules that govern the netting process and permissible offsets are based on account structures outlined in OCC's By-Laws and Rules.[20] The proposed revisions would also remove the discussion of "marginable positions," which are used to calculate margin requirements, since marginable positions are not relevant to OCC's Clearing Fund and stress testing methodology requirements and OCC's various account structures and the manner in which such accounts are margined are covered in OCC's By-Laws, Rules, and Margin Policy. In addition, the proposed revisions would restate in descriptive terms the calculation for determining total credit loss shortfalls.

The proposed revisions would also provide further clarity and detail concerning the aggregation of account-level stress test results. A key aspect of the aggregation of business type accounts is that some accounts have a restricted lien, in which assets in that account can only be used to offset losses in that business type account, while other accounts have a general lien, in which assets or gains in that account can be used to offset losses in any business type account of the same Clearing Member. The Methodology Description would be revised to summarize OCC's process for determining if an account is a general lien account or restricted lien account and for ensuring that such accounts receive proper netting treatment.

Proposed Changes to the Description of OCC's Stress Testing Model

In addition, OCC proposes a number of changes to its Methodology Description to improve the description of the models used in OCC's stress testing and Clearing Fund methodology. For example, the Methodology Description would be revised to provide additional context around the types of scenarios (e.g., Systemic Scenarios and Idiosyncratic Scenarios) that stress testing models are used to create. The proposed changes would also provide a more straightforward discussion around the use and selection of risk drivers used to represent risk factors in OCC's one-factor stress

[20] See e.g., OCC Rules 601, 602, 611.

testing model.[21] OCC notes that under the current Methodology Description, risk drivers and their mappings are subject to periodic review and change by OCC's Stress Test Working Group ("STWG"). The Methodology Description currently contains a non-exhaustive, sample set of risk drivers as of March 2018. OCC is proposing to replace the sample set of risk drivers with a more general list of risk drivers that may be used per risk factor type to ensure the ongoing accuracy and clarity of OCC's methodology documentation as the risk drivers change through the STWG governance process. The proposed revisions would also provide additional details around STWG's process for approving the addition, change or retiring of risk drivers. Changes to risk drivers may be based on, among other things: changing business needs, new product launches, open interest, or other changes in product mix. Moreover, when adding, changing, or retiring risk drivers, STWG would consider factors including, but not limited to: contract specifications (e.g. a derivative's underlying asset, the asset classification of a product), the relationship between proposed new products and existing risk drivers, the correlation between risk drivers and risk factors, and/or quality of available data. STWG may also approve the retirement and removal of a risk driver that has no risk factors mapped to it or if the risk driver itself is delisted. In addition, OCC would revise the methodology description to further clarify that, unlike annual recalibrations, the STWG would only approve quarterly recalibration of risk driver shocks when warranted (and not as a matter of course). The Methodology Description would also be updated to note that risk drivers and their mappings are maintained by the STLRM group and are available in the stress testing system. OCC does not believe that these proposed changes constitute a material or substantive change in OCC's Methodology Description but rather more appropriately documents OCC's process for maintaining and updating risk drivers.[22]

In addition, OCC proposes to revise the Methodology Description to provide a more straightforward discussion of the modeling of risk factor returns and price shocks for Hypothetical and Historical Scenarios and for OCC's various cleared products. Specifically, OCC proposes clarifying, streamlining, and organizational changes to the description of its modeling of volatility shocks for risk factors with SPX as the risk driver and for non-SPX driven risk factors. The proposed changes would also provide additional details on OCC's volatility modeling for flexibly

---

21 "Risk factors" refer broadly to all of the individual underlying securities (such as Google, IBM and Standard & Poor's Depositary Receipts ("SPDR"), S&P 500 Exchange Traded Funds ("SPY"), etc.) listed on a market. "Risk drivers" are a selected set of securities or market indices (e.g., SPX or VIX) that are used to represent the main sources or drivers for the price changes of the risk factors.

22 OCC notes that the Methodology Description would continue to specify that SPX and VIX are the main risk drivers for shocks of equity risk factors as equity risk factors make up the vast majority of volume, open interest, and risk at OCC. Due to the nature of equity risk factors, OCC's stress testing methodology treats equity risk factors in a standard and consistent fashion with respect to the mapping of risk drivers. Non-equity products, such as commodity futures and certain exchange-traded products (e.g., ETFs and ETNs), may have different risk drivers or risk drivers may change due to the evolving nature of the securities markets and the products OCC clears. Consequently, OCC believes it is necessary to maintain appropriate flexibility to adjust risk drivers as evolving circumstances warrant through the established STWG governance process.

structured options (or "flex options"),[23] for which shocked implied volatility is calculated from shocked implied volatilities of regular options.

OCC also proposes to replace a section specifically discussing price shocks for products where the underlying security is a basket of deliverable obligation securities with a more generalized discussion of OCC's approach to modeling price shocks for products with multiple risk factors as the underlying. In this case, the Methodology Description would describe how the underlyings are shocked by applying the one-factor model to each component risk factor. In addition, this proposed change would eliminate a restriction limiting the methodology to an "all or none" approach where price shocks are modeled using either all historical shocks or all shocks derived from OCC's beta methodology[24] to provide appropriate flexibility for OCC to determine price shocks on an individual risk factor basis depending on whether historical data is available. This allows for consistency between the shocks of the basket and the shocks used to price products on the basket's components. The Methodology Description would also be revised to describe how, in the case of a leveraged product, shocks are determined using a leverage ratio with respect to its tracking index used as the default beta. OCC believes the proposed changes are more generally aligned with the intended purpose of the Methodology Description, which is designed, in general, to provide a general description of the materials aspects of OCC's stress testing and Clearing Fund methodologies.

Additionally, OCC proposes to correct a reference to the use of log returns in the calculation of volatility shocks to more accurately state that these calculations are currently made using two-day arithmetic returns. OCC's stress testing methodology utilizes two-day arithmetic returns to calculate these shocks to align with OCC's two-day liquidation horizon assumption for its margin methodology and the arithmetic returns used in its dynamic VIX calibration process.[25]

OCC also proposes to clarify that implied volatility shocks for Systemic Scenarios are based on the expected risk, or "variance," of the risk factor in a forward-looking period after the price shock as opposed to the "standard deviation." OCC believes that using the terms "variance" or "standard deviation" are essentially equivalent ways to describe the equation; however, the term "variance" would more accurately reflect the terms of equation used in the document.

Proposed Changes to Description of Calibrations

---

23 Flex options are options that give investors the ability to customize basic option features including size, expiration date, exercise style, and certain exercise prices that do not correspond to the terms of any series of non-flexibly structured options previously opened for trading on an Exchange. See OCC By-Laws, Article I., Section 1.F.(8).

24 The "beta" is the sensitivity of a security with respect to its corresponding risk driver (i.e., the sensitivity of the price of the security relative to the price of the risk driver).

25 See supra note 3.

OCC proposes to revise its Methodology Description to more correctly describe the approach for generating shocks for U.S. Treasuries and Canadian Government Bond by replacing the term "covariance" with "correlation." While the calibration does use a covariance matrix, the inputs to the calibration are normalized by their standard deviation and so the resulting matrix actually contains correlations. The correlation matrix is then scaled by standard deviation terms to generate interest rate shocks.[26]

Proposed Changes to Description of Stress Test Scenarios

Finally, OCC proposes to revise the Methodology Description to provide additional clarity around the use and calibration of risk driver shocks in Hypothetical, Historical and Idiosyncratic Scenarios. OCC would also remove specific references to certain risk drivers and parameters that are subject to periodic review and change through its internal governance processes. OCC would also update the sample table of stress test scenarios in the document to: (1) reflect the addition of the proposed Idiosyncratic Scenarios; (2) remove Informational Scenarios from the table, which do not drive financial resource determinations and are subject to periodic change; and (3) provide additional information on the type of price shock used for each scenario in the table. In addition, OCC proposes to remove certain language from the document that provides qualitative justification for OCC's Clearing Fund allocation methodology but does not have any relevance to the actual calculation of Clearing Fund allocations.

Clearing Member Outreach

To inform Clearing Members of the proposed changes, OCC has provided an overview of the proposed changes to the Financial Risk Advisory Council ("FRAC"), a working group comprised of exchanges, Clearing Members and indirect participants of OCC. OCC has also performed direct outreach to Clearing Members that would be most impacted by the proposed changes. To-date, OCC has not received any material objections or concerns in response to this outreach.

Implementation Timing

OCC expects to implement the proposed changes within sixty (60) days after the date that OCC receives all necessary regulatory approvals for the proposed changes. OCC will announce the implementation date of the proposed change by an Information Memorandum posted to its public website at least two (2) weeks prior to implementation.[27]

---

[26] OCC notes that this is a standard practice. See Litterman, Robert and Sheinkman, Jose, "Common Factors Affecting Bond Returns," *Journal of Fixed Income*, 1991.

[27] OCC notes that the impact of certain changes, such as the proposed changes to the Clearing Fund allocation formula and potential for a new Idiosyncratic Scenario to set the size of the Clearing Fund, will not occur until the first monthly resizing of the Clearing Fund following the announced implementation date.

OCC reviewed the DCO Core Principles as set forth in the Act. During this review, OCC identified the following Core Principles as potentially being impacted:

Financial resources. OCC believes that implementing the proposed rule change would be consistent with the Core Principle B,[28] which requires, in part, that each DCO possesses financial resources that, at a minimum, exceed the total amount that would enable it to meet its financial obligations to its members and participants notwithstanding a default by the member or participant creating the largest financial exposure for that organization in extreme but plausible market conditions.[29] CFTC Regulation 39.11(c)(1)[30] further requires, in part, that a DCO shall, on a monthly basis, perform stress testing that will allow it to make a reasonable calculation of such financial resources using a methodology that takes into account both historical data and hypothetical scenarios.

The proposed rule change would enhance OCC's Clearing Fund and stress testing rules and methodology by: (1) providing a more comprehensive suite of Sizing Stress Tests; (2) improving the modeling of price shocks for VIX futures; and (3) standardizing the margin (or "total risk") component of its Clearing Fund contribution allocation formula. The proposed Idiosyncratic Scenarios would supplement OCC's current set of Sizing Scenarios, which are generally designed to estimate risk exposures arising from more broad-based market and systemic shocks reflected in OCC's Systemic Scenarios, by enabling OCC to appropriately consider the risks of extreme moves in individual or small subsets of securities. These additional hypothetical scenarios would help ensure that OCC maintains an appropriate level of Pre-Funded Financial Resources to cover its largest financial exposures in extreme but plausible market conditions, addressing both systemic market risks and idiosyncratic risks.

OCC proposes to enhance its stress testing methodology by using SPX at-the-money implied volatility shocks across different expirations to model price shocks for VIX futures contracts for corresponding expirations as opposed to using a uniform shock for all expirations. The proposed rule change is designed to more accurately measure OCC's credit exposure in its stress scenarios by producing price shocks for VIX futures that would vary based on the expiration as is more realistically observed in the market.

OCC believes that standardizing the margin or "total risk" component of its Clearing Fund allocation formula for all members provides allows for a more equitable comparison of risk across all Clearing Member accounts through the utilization of a consistent margin methodology.

---

28 7 U.S.C. 7a-1(c)(2)(B).

29 CFTC Regulation 39.11(a)(1) provides that if a clearing member controls another clearing member or is under common control with another clearing member, the affiliated clearing members shall be deemed to be a single clearing member for purposes of this provision. 17 CFR 39.11(a)(1).

30 17 CFR 39.11(c)(1).

In addition, OCC is proposing changes to its cooling-off period and associated assessment cap Rules to ensure that the cooling-off period and associated assessment caps are consistently applied for any proportionate charge resulting from a Clearing Member and thereby ensure that OCC can fully access, utilize, and replenish its Clearing Fund resources to address such losses and manage its credit exposures to participants.

Finally, OCC believes the clarifying, organizational, and streamlining changes to its Rules, Policy, and Methodology Description would improve the clarity and readability of its stress testing and Clearing Fund-related rules and policies and therefore promote the effective management of OCC's credit exposures to participants and those arising from its payment, clearing, and settlement processes.

Taken together, OCC believes the proposed changes are reasonably designed so that OCC can measure its credit exposures to its participants and manage such exposures by maintaining sufficient financial resources at a minimum to enable it to cover a wide range of foreseeable stress scenarios that include, but are not limited to, the default of the participant family that would potentially cause the largest aggregate credit exposure for OCC in extreme but plausible market conditions. Moreover, the proposed changes are designed result in a stress testing methodology that makes reasonable calculations of OCC's required financial resources, taking into account both historical data and hypothetical scenarios. For these reasons, OCC believes the proposed changes would help to ensure that OCC maintains sufficient resources to meet its financial resource requirements under Core Principle B.

Opposing Views

No opposing views were expressed related to the rule amendments.

Notice of Pending Rule Certification

OCC hereby certifies that notice of this rule filing has been be given to Clearing Members of OCC in compliance with Regulation 40.6(a)(2) by posting a copy of the submission on OCC's website concurrently with the filing of this submission.

Certification

OCC hereby certifies that the rule set forth at Item 1 of the enclosed filing complies with the Act and the CFTC's regulations thereunder.

Should you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

Justin W. Byrne
Vice President, Regulatory Filings

Enclosure

OMB APPROVAL	
OMB Number:	3235-0045
Estimated average burden hours per response	38

Required fields are shown with yellow backgrounds and asterisks.

Page 1 of * 170

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
Form 19b-4

File No.* SR - 2019 - * 009
Amendment No. (req. for Amendments *)

Filing by Options Clearing Corporation

Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

Initial * ☑ Amendment * ☐ Withdrawal ☐

Section 19(b)(2) * ☑ Section 19(b)(3)(A) * ☐ Section 19(b)(3)(B) * ☐

Pilot ☐

Extension of Time Period for Commission Action * ☐

Date Expires *

Rule

- 19b-4(f)(1)
- 19b-4(f)(2)
- 19b-4(f)(3)
- 19b-4(f)(4)
- 19b-4(f)(5)
- 19b-4(f)(6)

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010

Section 806(e)(1) * ☐ Section 806(e)(2) * ☐

Security-Based Swap Submission pursuant to the Securities Exchange Act of 1934

Section 3C(b)(2) * ☐

Exhibit 2 Sent As Paper Document

Exhibit 3 Sent As Paper Document

Description

Provide a brief description of the action (limit 250 characters, required when Initial is checked *).

Proposed rule change concerning The Options Clearing Corporation's Rules, Clearing Fund Methodology Policy, and Clearing Fund and Stress Testing Methodology.

Contact Information

Provide the name, telephone number, and e-mail address of the person on the staff of the self-regulatory organization prepared to respond to questions and comments on the action.

First Name * Justin Last Name * Byrne

Title * Vice President, Regulatory Filings

E-mail * jbyrne@theocc.com

Telephone * (202) 971-7238 Fax (312) 322-6280

Signature

Pursuant to the requirements of the Securities Exchange Act of 1934,

has duly caused this filing to be signed on its behalf by the undersigned thereunto duly authorized.

Date 10/10/2019

By Justin W. Byrne

(Name *)

(Title *)

Vice President, Regulatory Filings

NOTE: Clicking the button at right will digitally sign and lock this form. A digital signature is as legally binding as a physical signature, and once signed, this form cannot be changed.

Justin Byrne, jbyrne@theocc.com

Required fields are shown with yellow backgrounds and asterisks.

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

For complete Form 19b-4 instructions please refer to the EFFS website.

Form 19b-4 Information * Add Remove View	The self-regulatory organization must provide all required information, presented in a clear and comprehensible manner, to enable the public to provide meaningful comment on the proposal and for the Commission to determine whether the proposal is consistent with the Act and applicable rules and regulations under the Act.
Exhibit 1 - Notice of Proposed Rule Change * Add Remove View	The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO] -xx-xx). A material failure to comply with these guidelines will result in the proposed rule change being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)
Exhibit 1A- Notice of Proposed Rule Change, Security-Based Swap Submission, or Advance Notice by Clearing Agencies * Add Remove View	The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO] -xx-xx). A material failure to comply with these guidelines will result in the proposed rule change, security-based swap submission, or advance notice being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)
Exhibit 2 - Notices, Written Comments, Transcripts, Other Communications Add Remove View Exhibit Sent As Paper Document ☐	Copies of notices, written comments, transcripts, other communications. If such documents cannot be filed electronically in accordance with Instruction F, they shall be filed in accordance with Instruction G.
Exhibit 3 - Form, Report, or Questionnaire Add Remove View Exhibit Sent As Paper Document ☐	Copies of any form, report, or questionnaire that the self-regulatory organization proposes to use to help implement or operate the proposed rule change, or that is referred to by the proposed rule change.
Exhibit 4 - Marked Copies Add Remove View	The full text shall be marked, in any convenient manner, to indicate additions to and deletions from the immediately preceding filing. The purpose of Exhibit 4 is to permit the staff to identify immediately the changes made from the text of the rule with which it has been working.
Exhibit 5 - Proposed Rule Text Add Remove View	The self-regulatory organization may choose to attach as Exhibit 5 proposed changes to rule text in place of providing it in Item I and which may otherwise be more easily readable if provided separately from Form 19b-4. Exhibit 5 shall be considered part of the proposed rule change.
Partial Amendment Add Remove View	If the self-regulatory organization is amending only part of the text of a lengthy proposed rule change, it may, with the Commission's permission, file only those portions of the text of the proposed rule change in which changes are being made if the filing (i.e. partial amendment) is clearly understandable on its face. Such partial amendment shall be clearly identified and marked to show deletions and additions.

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 19b-4

Proposed Rule Change
by

THE OPTIONS CLEARING CORPORATION

Pursuant to Rule 19b-4 under the
Securities Exchange Act of 1934

Item 1. Text of the Proposed Rule Change

Pursuant to the provisions of Section 19(b)(1) of the Securities Exchange Act of 1934 ("Exchange Act" or "Act"),[1] and Rule 19b-4 thereunder,[2] The Options Clearing Corporation ("OCC") is filing with the Securities and Exchange Commission ("SEC" or "Commission") a proposed rule change designed to enhance OCC's Clearing Fund and stress testing methodology. Specifically, the proposed changes would: (1) incorporate a new set of stress test scenarios to be used in the monthly sizing of OCC's Clearing Fund that are designed to capture the risks of extreme moves in individual or small subsets of securities; (2) enhance OCC's stress testing methodology for modeling certain volatility index futures; (3) modify OCC's methodology for allocating Clearing Fund contribution requirements to standardize the margin risk component of the allocation formula for all Clearing Members; (4) adopt an additional threshold for notifying senior management of intra-day margin calls based on certain stress test results; (5) correct certain rules concerning OCC's cooling-off period and replenishment/assessment powers; and (6) make other clarifying and conforming changes to OCC's Rules, Clearing Fund Methodology Policy ("Policy"), and Stress Testing and Clearing Fund Methodology Description ("Methodology Description").

The proposed amendments to OCC's Rules can be found in Exhibit 5A. Proposed changes to the Policy can be found in Exhibit 5B. Proposed changes to the Methodology

---

1 15 U.S.C. 78s(b)(1).

2 17 CFR 240.19b-4.

Description can be found in Exhibit 5C. Material proposed to be added to the Rules, Policy, and Methodology Description as currently in effect is marked by underlining, and material proposed to be deleted is marked in strikethrough text.[3]

All terms with initial capitalization not defined herein have the same meaning as set forth in OCC's By-Laws and Rules.[4]

Item 2. Procedures of the Self-Regulatory Organization

The proposed changes were approved for filing with the Commission by the Risk Committee of the Board of Directors of OCC ("Board") at a meeting held on October 2, 2018, pursuant to authority delegated by the Board at a meeting held on July 18, 2018.

Questions should be addressed to Justin Byrne, Vice President, Regulatory Filings, at (202) 971-7238.

Item 3. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

A. Purpose

Background

In September 2018, OCC implemented new rules for sizing and monitoring its Clearing

---

3 OCC also has filed an advance notice with the Commission in connection with the proposed changes. See SR-OCC-2019-806.

4 OCC's By-Laws and Rules can be found on OCC's public website: http://optionsclearing.com/about/publications/bylaws.jsp.

Fund and overall Pre-Funded Financial Resources,[5] which included the adoption of a new Policy and Methodology Description.[6] Under the requirements of the Policy, OCC bases its determination of the Clearing Fund size on the results of stress tests conducted daily using standard predetermined parameters and assumptions. These daily stress tests consider a range of relevant stress scenarios and possible price changes in liquidation periods, including but not limited to: (1) relevant peak historic price volatilities; (2) shifts in other market factors including, as appropriate, price determinants and yield curves; and (3) the default of one or multiple Clearing Members. OCC also conducts reverse stress tests for informational purposes aimed at identifying extreme default scenarios and extreme market conditions for which the OCC's financial resources may be insufficient.

As described in the Methodology Description, the newly adopted methodology includes two types of scenarios: "Historical Scenarios" and "Hypothetical Scenarios." Historical Scenarios intend to replicate historical events in current market conditions, which includes the set of currently existing securities, their prices, and volatility levels. These scenarios provide OCC with information regarding pre-defined reference points determined to be relevant

---

5 The Policy defines OCC's "Pre-Funded Financial Resources" to mean margin of the defaulted Clearing Member and the required Clearing Fund less any deficits, exclusive of OCC's assessment powers.

6 On July 26, 2018, the Commission issued a Notice of No Objection to an advance notice by OCC concerning the adoption of a new stress testing and Clearing Fund methodology. See Securities Exchange Act Release No. 83714 (July 26, 2018), 83 FR 37570 (August 1, 2018) (SR-OCC-2018-803). On July 27, 2018, the Commission approved a proposed

benchmarks for assessing OCC's exposure to Clearing Members and the adequacy of its financial resources. Hypothetical Scenarios represent events in which market conditions change in ways that have not yet been observed. The Hypothetical Scenarios are derived using statistical methods (e.g., draws from estimated multivariate distributions) or created based on a mix of statistical techniques and expert judgment (e.g., a 15% decline in market prices and 50% increase in volatility). These scenarios give OCC the ability to change the distribution and level of stress in ways necessary to produce an effective forward-looking stress testing methodology. OCC uses these pre-determined stress scenarios in stress tests, conducted on a daily basis, to determine OCC's risk exposure to each Clearing Member Group by simulating the profits and losses of the positions in their respective account portfolios under each such stress scenario.

Under the Policy and Methodology Description, OCC performs daily stress testing using a wide range of scenarios, both Hypothetical and Historical, designed to serve multiple purposes. OCC's proposed stress testing inventory contains scenarios designed to: (1) determine whether the financial resources collected from all Clearing Members collectively are adequate to cover OCC's risk tolerance ("Adequacy Scenarios," and such scenarios collectively constituting "Adequacy Stress Tests"); (2) establish the monthly size of the Clearing Fund necessary for OCC to maintain sufficient Pre-Funded Financial Resources to cover losses arising from the default of the two Clearing Member Groups that would potentially cause the largest aggregate credit

---

rule change by OCC concerning the same proposal. See Securities Exchange Act Release No. 83735 (July 27, 2018), 83 FR 37855 (August 2, 2018) (SR-OCC-2018-008).

exposure to OCC as a result of a 1-in-80 year hypothetical market event ("Sizing Scenarios," and such scenarios collectively constituting "Sizing Stress Tests"); (3) measure the exposure of the Clearing Fund to the portfolios of individual Clearing Member Groups, and determine whether any such exposure is sufficiently large as to necessitate OCC calling for additional resources so that OCC continues to maintain sufficient financial resources to guard against potential losses under a wide range of stress scenarios, including extreme but plausible market conditions ("Sufficiency Scenarios," and such scenarios collectively constituting "Sufficiency Stress Tests");[7] and (4) monitor and assess the size of OCC's Pre-Funded Financial Resources against a wide range of stress scenarios that may include extreme but implausible and reverse stress testing scenarios ("Informational Scenarios," and such scenarios collectively constituting "Informational

---

[7] Under OCC Rule 609, the Policy, and the Methodology Description, if a Sufficiency Stress Test identifies exposures that exceed 75% of the current Clearing Fund requirement less deficits (the "75% threshold" or "Sufficiency Stress Test Threshold 1"), OCC may require additional margin deposits from the Clearing Member Group(s) driving the breach. All such margin calls must be approved by a Vice President (or higher) of OCC's Financial Risk Management department ("FRM"); however, if the margin call imposed on an individual Clearing Member exceeds $500 million, OCC's Stress Testing and Liquidity Risk Management group ("STLRM") must provide written notification to OCC's Executive Chairman, Chief Executive Officer, and Chief Operating Officer (collectively referred to as the "Office of the Chief Executive Officer" or "OCEO"). Additionally, under Rule 1001(c) (and as described in the Policy and Methodology Description), if a Sufficiency Stress Test were to identify a Clearing Fund Draw for any one or two Clearing Member Groups that exceed 90% of the current Clearing Fund size (after subtracting any monies deposited as a result of a margin call in accordance with a breach of Sufficiency Stress Test Threshold 1), OCC has the authority to effect an intra-month resizing of the Clearing Fund to ensure that it continues to maintain sufficient prefunded financial resources. See supra note 6.

Stress Tests").[8]

In addition, under the Rules, Policy, and Methodology Description, individual Clearing Members' Clearing Fund contribution requirements are determined using a risk-based allocation methodology of 70% "total risk," 15% volume, and 15% open interest using a one-month look-back period. For purposes of allocating Clearing Fund contributions, "total risk" is defined to mean the margin requirement calculated and reported by OCC with respect to all accounts of a Clearing Member less the net asset value of the positions in such accounts aggregated across all such accounts.

Proposed Changes

OCC proposes to enhance its Clearing Fund and stress testing framework by: (1) adopting a new set of stress scenarios to be used in the monthly sizing of OCC's Clearing Fund that are designed to capture the risks of extreme moves in individual or small subsets of securities ("Idiosyncratic Scenarios"); (2) improving its model for determining price shocks for futures on the Cboe Volatility Index ("VIX")[9] (such futures contracts hereinafter referred to as "VIX futures"); (3) modifying the methodology for allocating Clearing Fund contribution requirements to standardize the margin risk component of the allocation formula for all Clearing Members; (4) adopting an additional threshold for notifying senior management of certain intra-

---

8 OCC notes that its Adequacy and Informational Stress Tests are not used to size the Clearing Fund or drive calls for additional financial resources.

9 The VIX is an index designed to measure the 30-day expected volatility of the Standard & Poor's 500 index ("SPX").

day margin calls based on Sufficiency Stress Test results; (5) correcting certain rules concerning OCC's cooling-off period and replenishment/assessment powers; and (6) making certain other clarifying and conforming changes to OCC's Rules, Policy, and Methodology Description. The proposed changes are described in detail below.

1. Introduction of Idiosyncratic Scenarios in Sizing Stress Tests

OCC proposes to revise its Policy and Methodology Description to incorporate into its inventory of Sizing Stress Tests a new set of Idiosyncratic Scenarios that are designed to capture the risks of extreme moves in individual or small subsets of securities. As noted above, OCC's Sizing Stress Tests are used to establish the monthly size of the Clearing Fund necessary for OCC to maintain sufficient Pre-Funded Financial Resources to cover losses arising from the default of the two Clearing Member Groups that would potentially cause the largest aggregate credit exposure to OCC in extreme but plausible market conditions. The proposed Idiosyncratic Scenarios would supplement OCC's current set of Sizing Scenarios (which are generally designed to estimate risk exposures arising from more broad-based market and systemic shocks ("Systemic Scenarios") and would allow OCC to identify forward-looking, non-systemic market events that may impact its Pre-Funded Financial Resource requirements. Like other Sizing Scenarios, the proposed Idiosyncratic Scenarios may be used to determine the monthly size of Clearing Fund when projected exposures from the Idiosyncratic Scenarios are greater than OCC's other Sizing Scenarios.

The proposed Idiosyncratic Scenarios are designed to capture the risk of extreme non-

systemic market moves on single-name securities through individual rally and decline shocks. Under the proposed methodology for Idiosyncratic Scenarios, every single-name equity (i.e., excluding exchange-traded funds, exchange-traded notes, indices, and non-equity products) in a portfolio is shocked by a fixed extreme idiosyncratic up and down move. In order to determine these fixed shocks, single-name equities would be classified as either large or small capitalization (referred to herein as "large cap" and "small cap," respectively) and the shocks would be constructed based on the market capitalization classification and direction of the price (e.g., the four potential idiosyncratic moves would be large cap up, large cap down, small cap up, and small cap down. The fixed price shocks would be calibrated from historical price return data such that the probability of the idiosyncratic moves is comparable to OCC's Systemic Sizing Scenarios and the probability in all four scenarios would be approximately equal. The profit and loss (P/L) contribution for each name is then calculated for the portfolio using both up and down moves, and the worst loss from the two P/L moves is chosen as the direction of the idiosyncratic move for each name. Next, the four names with the worst P/L (along with the direction of extreme move) are chosen for the portfolio, providing the four names for every portfolio within a Clearing Member Group. Then the risk exposure (P/L) is aggregated at the Clearing Member Group-level using each set of four names. The worst shortfall generated is the idiosyncratic risk of the Clearing Member Group, and the largest two Clearing Member Group exposures are used to determine the Cover 2 Idiosyncratic Scenario Clearing Fund size.

OCC believes that implementing the proposed Idiosyncratic Scenarios would enhance

OCC's stress testing methodology and overall resiliency by providing a more comprehensive suite of Sizing Stress Tests to ensure that OCC maintains an appropriate level of Pre-Funded Financial Resources to cover its credit exposures under scenarios addressing both systemic market risks and idiosyncratic risks.

2. Enhancements for Modeling Shocks on VIX Futures

OCC also proposes to enhance its methodology for modeling price shocks for VIX futures. Under OCC's current stress testing methodology, prices shocks for VIX futures are equivalent to the price shock for the underlying VIX index. OCC believes that this approach is unrealistic in that it produces a uniform shock across expirations of the VIX futures contract, which leads to an overestimation of VIX futures price shocks, particularly in market decline scenarios. Futures contracts for different expirations generally trade at different prices reflecting the differing future price expectations of the underlying asset.[10] Accordingly, OCC believes that the size of the price shocks produced by its stress testing methodology should vary based on the expiration of each contract as is more realistically observed in the market.

OCC proposes to enhance its stress testing methodology (and specifically, Section 3.4 of

---

[10] When there is a large shock to the VIX it has consistently been observed that the change in price of near-term VIX future contracts is much larger than for further out expirations. For instance, on 2/5/2018 when the near-term VIX future contract expiring on 2/16/2018 increased by 113% the following standard expirations increased by less: 87% for 3/21/2018; 64% for 4/18/2018; 37% for 5/16/2018; and less than 30% for all further expirations. For all other days within the past 5 years with one-day VIX increases of over 45%, similar patterns were observed of a decreasing VIX future term structure of shocks (8/21/2015, 8/24/2015, 6/24/2016 and 5/17/2017).

the Methodology Description) by using SPX at-the-money implied volatility shocks across different expirations to model forward volatility to generate shocks for VIX futures contracts for the corresponding expirations. OCC believes the proposed model enhancements would produce more appropriate VIX futures price shocks in its stress scenarios because it would produce differing price shocks across the term structure as is generally observed in the market.[11] For example, OCC has observed that VIX futures price shocks obtained from the enhanced model for varying expirations is similar to the actual VIX futures market prices when tested on historical stress periods. Additionally, because VIX futures are used to calculate theoretical values for VIX options, OCC believes the proposed enhancement would improve the pricing of both VIX futures and VIX options in OCC's stress testing methodology.

3. Modifications to Clearing Fund Allocation Weighting Methodology

OCC proposes to modify its allocation methodology for determining individual Clearing Members' Clearing Fund requirements. As part of OCC's recently adopted stress testing and Clearing Fund methodology, OCC moved to a more risk-based method for allocating Clearing Fund requirements.[12] Clearing Fund allocations are currently based on a weighting of 70% margin risk, 15% open interest, and 15% cleared volume. The margin risk component of the allocation formula, known as "total risk," is based on the total margin requirement calculated and reported by OCC with respect to all accounts of a Clearing Member less the net asset value of the

---

11 Id.

12 See supra note 6.

positions in such accounts aggregated across all such accounts over a one-month look-back period compared to the aggregate of total risk across all Clearing Members.[13] While the majority of margin requirements used in the allocation formula are STANS-based margin requirements,[14] certain Clearing Members' accounts (and thus their allocations) are more heavily impacted by margin requirements calculated using the Standard Portfolio Analysis of Risk Margin Calculation System ("SPAN") that reflects customer gross margining, which may result in higher risk charges than net margining with STANS for the same account.[15]

---

13 See OCC Rule 1003(b)(i). OCC removes net asset value from the "total risk" component of the allocation formula because it does not reflect a risk measure but rather represents the value of contracts and collateral held in a Clearing Member's accounts.

14 The System for Theoretical Analysis and Numerical Simulations (or "STANS") is OCC's proprietary risk management system for calculating Clearing Member margin requirements. See Securities Exchange Act Release No. 53322 (February 15, 2006), 71 FR 9403 (February 23, 2006) (SR-OCC-2004-20). A detailed description of the STANS methodology is available at http://optionsclearing.com/risk-management/margins/.

15 Pursuant to OCC Rule 601(e)(1), in additions to STANS-based requirements, OCC calculates initial margin requirements for segregated futures accounts on a gross basis using SPAN. Commodity Futures Trading Commission ("CFTC") Rule 39.13(g)(8), requires, in relevant part, that derivatives clearing organizations ("DCOs") collect initial margin for customer segregated futures accounts on a gross basis. While OCC uses SPAN to calculate initial margin requirements for segregated futures accounts on a gross basis, OCC believes that margin requirements calculated on a net basis (i.e., permitting offsets between different customers' positions held by a Clearing Member in a segregated futures account using STANS) affords OCC additional protections at the clearinghouse level against risks associated with liquidating a Clearing Member's segregated futures account. As a result, OCC calculates margin requirements for segregated futures accounts using both SPAN on a gross basis and STANS on a net basis, and if at any time OCC staff observes a segregated futures account where initial margin calculated pursuant to STANS on a net basis exceeds the initial margin calculated pursuant to SPAN on a gross basis, OCC collateralizes this risk exposure by applying an additional margin charge in the amount of such difference to the account. See Securities Exchange Act

OCC proposes to standardize the margin or "total risk" component of its Clearing Fund allocation formula for all members by using only the STANS base amount, plus certain add-on charges[16] as may be determined by OCC pursuant to its policies and procedures. OCC believes it is more appropriate to use the same margin risk measurement for all Clearing Members/accounts when determining Clearing Fund allocations since this allows for a more equitable comparison across all accounts through the utilization of a consistent margin methodology. Accordingly, OCC proposes to modify the definition of "total risk" in Rule 1003(b)(i) to mean "a risk measure aggregated across all accounts of a Clearing Member determined using the Corporation's margin methodology and such add-on charges as may be determined pursuant to the Corporation's policies and procedures." OCC also proposes to make conforming to changes to its Policy and Methodology Description to reflect the new definition of "total risk."

4. New Sufficiency Stress Test Notification Threshold

OCC also proposes to adopt a new internal notification threshold for intra-day margin calls resulting from its Sufficiency Stress Tests. Under existing Rule 609, the Policy, and the

---

Release No. 72331 (June 5, 2014), 79 FR 33607 (June 11, 2014) (SR-OCC-2014-13). SPAN is a methodology developed by the Chicago Mercantile Exchange and used by many clearinghouses and exchanges around the world to calculate margin requirements on futures and options on futures.

16 Under OCC's Margin Policy, OCC may collateralize certain exposures that may be modeled outside of STANS using add-on charges.

Methodology Description, if a Sufficiency Stress Test identifies a Clearing Fund Draw[17] for any one or two Clearing Member Groups that exceeds Sufficiency Stress Test Threshold 1, OCC is authorized to issue a margin call against the Clearing Member Group(s) and/or Clearing Member(s) causing the breach.[18] All Sufficiency Stress Test margin calls are required to be approved by a Vice President (or higher) of FRM; however, if the margin call imposed on an individual Clearing Member exceeds $500 million, the STLRM group must provide written notification to the Office of the CEO. If the margin call imposed on an individual Clearing Member would exceed 100% an individual Clearing Member's net capital, the issue is then escalated to the Office of the CEO, and each of the Executive Chairman, Chief Executive Officer, and Chief Operating Officer have the authority to determine whether OCC should continue calling for additional margin in excess of this amount.

OCC proposes to revise the Policy to require that STLRM provide written notification to the Office of the CEO whenever a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital (in addition to the current requirement to provide notification for any margin call exceeding $500 million). OCC believes that this additional notification requirement is appropriate because it will allow OCC's senior management to be informed as soon as practicable of, and to subsequently monitor, circumstances where a margin call may strain a particular Clearing Member's ability to meet

---

17 The term "Clearing Fund Draw" refers to an estimated stress loss exposure in excess of margin requirements.

such requirements based on its financial condition or the amount of collateral it has available to pledge when certain pre-identified thresholds have been exceeded.[19]

5. Correction of Cooling-Off Period and Replenishment/Assessment Power Rules

OCC proposes several corrections to its Rules and Policy concerning its cooling-off period and Clearing Fund replenishment/assessment powers. As part of OCC's recently approved filings to implement enhanced and new recovery tools ("Recovery Tools Filings"), OCC adopted a minimum 15-day "cooling-off period" with a cap on Clearing Fund assessments.[20] OCC Rule 1006(h) currently provides that the cooling-off period is triggered when any amount is paid out of the Clearing Fund as a result of a proportionate charge resulting

---

18 See supra notes 6 and 7.

19 For example, if a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital, and such Sufficiency Stress Test also results in Clearing Fund draws for any one or two Clearing Member Groups that exceed 90% of the current Clearing Fund size, OCC may choose to resize the Clearing Fund on an intra-month basis rather than continuing to call for additional margin from a Clearing Member whose ability to meet such a call may be strained. See supra notes 6 and 7.

20 On August 23, 2018, the Commission issued a Notice of No Objection to an advance notice by OCC concerning changes to OCC's Rules and By-Laws to enhance OCC's existing tools to address the risks of liquidity shortfalls and credit losses and to establish new tools by which OCC could re-establish a matched book and, if necessary, allocate uncovered losses following the default of a Clearing Member as well as provide for additional financial resources. See Securities Exchange Act Release No. 83927 (August 23, 2018), 83 FR 44083 (August 29, 2018) (SR-OCC-2017-809). On August 23, 2018, the Commission approved a proposed rule change by OCC concerning the same proposal. See Securities Exchange Act Release No. 83916 (August 23, 2018), 83 FR 44076 (August 29, 2018) (SR-OCC-2017-020).

from any of the events described in clauses (i) through (iv) of Rule 1006(a).[21] The actual intention of the Recovery Tools Filings, however, was to capture any proportionate charges related to the default of a Clearing Member,[22] which would also include any use of the Clearing Fund to make good losses or expenses suffered by OCC or as a result of a borrowing by OCC: (1) in connection with protective transactions effected for the account of OCC pursuant to Chapter XI of the Rules and (2) as a result of a failure of any Clearing Member to make any other required payment or render any other required performance (as provided in clauses (v) and (vi) of Rule 1006(a)). OCC therefore proposes to revise its Rules and Policy to more correctly reflect that the cooling-off period and associated assessment caps apply for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a). The proposed rule change would ensure that all proportionate charges associated with a Clearing Member default are treated consistently as was originally intended with the adoption of the

---

21 These clauses include the following events: (i) failure of any Clearing Member to discharge duly any obligation on or arising from any confirmed trade accepted by the Corporation; (ii) failure of any Clearing Member (including any Appointed Clearing Member) or of CDS to perform its obligations (including its obligations to the correspondent clearing corporation) under or arising from any exercised or assigned option contract or matured future or any other contract or obligation issued, undertaken, or guaranteed by the Corporation or in respect of which the Corporation is otherwise liable; (iii) failure of any Clearing Member to perform any of its obligations to the Corporation in respect of the stock loan and borrow positions of such Clearing Member; and (iv) any liquidation of a Clearing Member's open positions.

22 See e.g., Securities Exchange Act Release No. 83927 (August 23, 2018), 83 FR 44083, 44077 (August 29, 2018) (SR-OCC-2017-809) (providing that "[t]he proposal would introduce a minimum fifteen calendar day 'cooling-off' period that automatically begins

cooling-off period and modification of OCC's replenishment/assessment powers in the Recovery Tools Filings.

6. Other Clarifying and Conforming Changes

Finally, OCC proposes a number of clarifying, streamlining, and organizational changes to the Methodology Description that are not intended to change the substance of OCC's stress testing and Clearing Fund methodology, but that OCC believes would improve the clarity and readability of the document. The proposed changes to the Methodology Description are described below.

Proposed Changes to the Executive Summary

OCC proposes to revise the model scope discussion of the executive summary to provide a summary of the netting rules and positions sets used for stress testing and to break out different sections for the discussion of Systemic Scenarios and Idiosyncratic Scenarios. The executive summary would also be revised to provide additional information regarding the key assumptions of OCC's stress testing and Clearing Fund methodology. In addition, the Model Performance section of the executive summary would be revised to provide further information on supporting documentation for OCC's stress testing.

Proposed Changes to the Description of Stress Test Portfolio Construction

OCC also proposes to revise its Methodology Description to provide additional details

---

when OCC imposes a proportionate charge related to the default of a Clearing Member against non-defaulting Clearing Members' Clearing Fund contributions.").

regarding the construction of stress testing portfolios. For example, the proposed revisions would discuss OCC's process for creating the "Synthetic Accounts" used in stress testing. Clearing Member positions are initially held in "Tier Accounts" that have the same business type (e.g., omnibus customer accounts, combined market maker accounts, firm accounts) and cross-margining relationship with other clearinghouses (if applicable). For the purpose of stress testing, OCC considers liquidation positions, where Tier Account level positions are further aggregated into Synthetic Accounts. The rules that govern the netting process and permissible offsets are based on account structures outlined in OCC's By-Laws and Rules.[23] The proposed revisions would also remove the discussion of "marginable positions," which are used to calculate margin requirements, since marginable positions are not relevant to OCC's Clearing Fund and stress testing methodology requirements and OCC's various account structures and the manner in which such accounts are margined is covered in OCC's By-Laws, Rules, and Margin Policy. In addition, the proposed revisions would restate in descriptive terms the calculation for determining total credit loss shortfalls.

The proposed revisions would also provide further clarity and detail concerning the aggregation of account-level stress test results. A key aspect of the aggregation of business type accounts is that some accounts have a restricted lien, in which assets in that account can only be used to offset losses in that business type account, while other accounts have a general lien, in which assets or gains in that account can be used to offset losses in any business type account of

---

[23] See e.g., OCC Rules 601, 602, 611.

the same Clearing Member. The Methodology Description would be revised to summarize OCC's process for determining if an account is a general lien account or restricted lien account and for ensuring that such accounts receive proper netting treatment.

Proposed Changes to the Description of OCC's Stress Testing Model

In addition, OCC proposes a number of changes to its Methodology Description to improve the description of the models used in OCC's stress testing and Clearing Fund methodology. For example, the Methodology Description would be revised to provide additional context around the types of scenarios (e.g., Systemic Scenarios and Idiosyncratic Scenarios) that stress testing models are used to create. The proposed changes would also provide a more straightforward discussion around the use and selection of risk drivers used to represent risk factors in OCC's one-factor stress testing model.[24] OCC notes that under the current Methodology Description, risk drivers and their mappings are subject to periodic review and change by OCC's Stress Test Working Group ("STWG"). The Methodology Description currently contains a non-exhaustive, sample set of risk drivers as of March 2018. OCC is proposing to replace the sample set of risk drivers with a more general list of risk drivers that may be used per risk factor type to ensure the ongoing accuracy and clarity of OCC's methodology documentation as the risk drivers change through the STWG governance process.

---

24 "Risk factors" refer broadly to all of the individual underlying securities (such as Google, IBM and Standard & Poor's Depositary Receipts ("SPDR"), S&P 500 Exchange Traded Funds ("SPY"), etc.) listed on a market. "Risk drivers" are a selected set of securities or

The proposed revisions would also provide additional details around STWG's process for approving the addition, change or retiring of risk drivers. Changes to risk drivers may be based on, among other things: changing business needs, new product launches, open interest, or other changes in product mix. Moreover, when adding, changing, or retiring risk drivers, STWG would consider factors including, but not limited to: contract specifications (e.g. a derivative's underlying asset, the asset classification of a product), the relationship between proposed new products and existing risk drivers, the correlation between risk drivers and risk factors, and/or quality of available data. STWG may also approve the retirement and removal of a risk driver that has no risk factors mapped to it or if the risk driver itself is delisted. In addition, OCC would revise the methodology description to further clarify that, unlike annual recalibrations, the STWG would only approve quarterly recalibration of risk driver shocks when warranted (and not as a matter of course). The Methodology Description would also be updated to note that risk drivers and their mappings are maintained by the STLRM group and are available in the stress testing system. OCC does not believe that these proposed changes constitutes a material or substantive change in OCC's Methodology Description but rather more appropriately documents OCC's process for maintaining and updating risk drivers.[25]

---

market indices (e.g., SPX or VIX) that are used to represent the main sources or drivers for the price changes of the risk factors.

25 OCC notes that the Methodology Description would continue to specify that SPX and VIX are the main risk drivers for shocks of equity risk factors as equity risk factors make up the vast majority of volume, open interest, and risk at OCC. Due to the nature of equity risk factors, OCC's stress testing methodology treats equity risk factors in a

In addition, OCC proposes to revise the Methodology Description to provide a more straightforward discussion of the modeling of risk factor returns and price shocks for Hypothetical and Historical Scenarios and for OCC's various cleared products. Specifically, OCC proposes clarifying, streamlining, and organizational changes to the description of its modeling of volatility shocks for risk factors with SPX as the risk driver and for non-SPX driven risk factors. The proposed changes would also provide additional details on OCC's volatility modeling for flexibly structured options (or "flex options"),[26] for which shocked implied volatility is calculated from shocked implied volatilities of regular options.

OCC also proposes to replace a section specifically discussing price shocks for products where the underlying security is a basket of deliverable obligation securities with a more generalized discussion of OCC's approach to modeling price shocks for products with multiple risk factors as the underlying. In this case, the Methodology Description would describe how the underlyings are shocked by applying the one-factor model to each component risk factor. In addition, this proposed change would eliminate a restriction limiting the methodology to an "all

---

standard and consistent fashion with respect to the mapping of risk drivers. Non-equity products, such as commodity futures and certain exchange-traded products (e.g., ETFs and ETNs), may have different risk drivers or risk drivers may change due to the evolving nature of the securities markets and the products OCC clears. Consequently, OCC believes it is necessary to maintain appropriate flexibility to adjust risk drivers as evolving circumstances warrant through the established STWG governance process.

[26] Flex options are options that give investors the ability to customize basic option features including size, expiration date, exercise style, and certain exercise prices that do not correspond to the terms of any series of non-flexibly structured options previously opened for trading on an Exchange. See OCC By-Laws, Article I., Section 1.F.(8).

or none" approach where price shocks are modeled using either all historical shocks or all shocks derived from OCC's beta methodology[27] to provide appropriate flexibility for OCC to determine price shocks on an individual risk factor basis depending on whether historical data is available. This allows for consistency between the shocks of the basket and the shocks used to price products on the basket's components. The Methodology Description would also be revised to describe how, in the case of a leveraged product, shocks are determined using a leverage ratio with respect to its tracking index used as the default beta. OCC believes the proposed changes are more generally aligned with the intended purpose of the Methodology Description, which is designed, in general, to provide a general description of the materials aspects of OCC's stress testing and Clearing Fund methodologies.

Additionally, OCC proposes to correct a reference to the use of log returns in the calculation of volatility shocks to more accurately state that these calculations are currently made using two-day arithmetic returns. OCC's stress testing methodology utilizes two-day arithmetic returns to calculate these shocks to align with OCC's two-day liquidation horizon assumption for its margin methodology and the arithmetic returns used in its dynamic VIX calibration process.[28]

OCC also proposes to clarify that implied volatility shocks for Systemic Scenarios are based on the expected risk, or "variance," of the risk factor in a forward-looking period after the price shock as opposed to the "standard deviation." OCC believes that using the terms

---

27 The "beta" is the sensitivity of a security with respect to its corresponding risk driver (i.e., the sensitivity of the price of the security relative to the price of the risk driver).

"variance" or "standard deviation" are essentially equivalent ways to describe the equation; however, the term "variance" would more accurately reflect the terms of equation used in the document.

Proposed Changes to Description of Calibrations

OCC proposes to revise its Methodology Description to more correctly describe the approach for generating shocks for U.S. Treasuries and Canadian Government Bond by replacing the term "covariance" with "correlation." While the calibration does use a covariance matrix, the inputs to the calibration are normalized by their standard deviation and so the resulting matrix actually contains correlations. The correlation matrix is then scaled by standard deviation terms to generate interest rate shocks.[29]

Proposed Changes to Description of Stress Test Scenarios

Finally, OCC proposes to revise the Methodology Description to provide additional clarity around the use and calibration of risk driver shocks in Hypothetical, Historical and Idiosyncratic Scenarios. OCC would also remove specific references to certain risk drivers and parameters that are subject to periodic review and change through its internal governance processes. OCC would also update the sample table of stress test scenarios in the document to: (1) reflect the addition of the proposed Idiosyncratic Scenarios; (2) remove Informational Scenarios from the table, which do not drive financial resource determinations and are subject to

---

[28] See supra note 6.

periodic change; and (3) provide additional information on the type of price shock used for each scenario in the table. In addition, OCC proposes to remove certain language from the document that provides qualitative justification for OCC's Clearing Fund allocation methodology but does not have any relevance to the actual calculation of Clearing Fund allocations.

Clearing Member Outreach

To inform Clearing Members of the proposed changes, OCC has provided an overview of the proposed changes to the Financial Risk Advisory Council ("FRAC"), a working group comprised of exchanges, Clearing Members and indirect participants of OCC. OCC has also performed direct outreach to Clearing Members that would be most impacted by the proposed changes. To-date, OCC has not received any material objections or concerns in response to this outreach.

Implementation Timing

OCC expects to implement the proposed changes within sixty (60) days after the date that OCC receives all necessary regulatory approvals for the proposed changes. OCC will announce the implementation date of the proposed change by an Information Memorandum posted to its public website at least two (2) weeks prior to implementation.[30]

---

29 OCC notes that this is a standard practice. See Litterman, Robert and Sheinkman, Jose, "Common Factors Affecting Bond Returns," *Journal of Fixed Income*, 1991.

30 OCC notes that the impact of certain changes, such as the proposed changes to the Clearing Fund allocation formula and potential for a new Idiosyncratic Scenario to set the size of the Clearing Fund, will not occur until the first monthly resizing of the Clearing Fund following the announced implementation date.

B. Statutory Basis

OCC believes the proposed rule change is consistent with requirements of the Act and rules and regulations thereunder applicable to registered clearing agencies. Specifically, OCC believes the proposed rule change is consistent with Section 17A(b)(3)(F) of the Act[31] and Rule 17Ad-22(b)(3)[32] and Rule 17Ad-22(e)(4)[33] thereunder, as described in further detail below.

Consistency with the Section 17A(b)(3)(F) of the Exchange Act

Section 17A(b)(3)(F) of the Act[34] requires, among other things, that the rules of a clearing agency be designed to promote the prompt and accurate clearance and settlement of securities and derivatives transactions. Taken together, OCC believes the proposed changes are designed to enhance OCC's overall framework for managing credit risk and are consistent with Section 17A(b)(3)(F) of the Act[35] for the reasons set forth below.

OCC believes that implementing the proposed Idiosyncratic Scenarios would enhance OCC's stress testing methodology and overall resiliency by providing a more comprehensive suite of Sizing Stress Tests to ensure that OCC maintains appropriate level of Pre-Funded Financial Resources to cover its credit exposures under scenarios addressing both systemic market risks and idiosyncratic risks. As noted above, OCC's Sizing Stress Tests are used to

---

31 15 U.S.C. 78q-1(b)(3)(F).

32 17 CFR 240.17Ad-22(b)(3).

33 17 CFR 240.17Ad-22(e)(4).

34 15 U.S.C. 78q-1(b)(3)(F).

35 Id.

establish the monthly size of the Clearing Fund necessary for OCC to maintain sufficient Pre-Funded Financial Resources to cover losses arising from the default of the two Clearing Member Groups that would potentially cause the largest aggregate credit exposure to OCC in extreme but plausible market conditions. The proposed Idiosyncratic Scenarios would supplement OCC's current set of Sizing Scenarios (which are generally designed to estimate risk exposures arising from more broad-based market and systemic shocks reflected in OCC's Systemic Scenarios) by enabling OCC to appropriately consider the risks of extreme moves in individual or small subsets of securities. OCC therefore believes that the proposed rule change would enhance OCC's overall framework for managing credit risks and reduce the risk that its Pre-Funded Financial Resources would be insufficient in an actual default so that it can continue to provide prompt and accurate clearance and settlement of securities and derivatives transactions consistent with Section 17A(b)(3)(F) of the Act.[36]

In addition, OCC proposes to enhance its stress testing methodology to more accurately and appropriately model price shocks for VIX futures. Under OCC's current stress testing methodology, prices shocks for VIX futures are equivalent to the price shock for the underlying VIX index. OCC believes that this approach is unrealistic in that it produces a uniform shock across expirations of the VIX futures contract, which leads to an overestimation of VIX futures price shocks, particularly in market decline scenarios. OCC therefore proposes to enhance its stress testing methodology to produce more appropriate VIX futures price shocks that would

---

36 Id.

vary based on the expiration of contracts as is more realistically observed in the market.[37] OCC believes the proposed changes would enhance OCC's framework for managing credit risk because it would result in more accurate and realistic stress testing results and are therefore designed to promote the prompt and accurate clearance and settlement of securities and derivatives transactions consistent with Section 17A(b)(3)(F) of the Act.[38]

OCC also proposes to revise the Policy to require that STLRM provide written notification to the Office of the CEO whenever a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital. The proposed change would allow OCC's senior management to be informed of, and to subsequently monitor, circumstances where a margin call may strain a particular Clearing Member's ability to meet such requirements based on its financial condition or the amount of collateral it has available to pledge when certain pre-identified thresholds have been exceeded. OCC believes the proposed rule change would improve its process for monitoring and managing credit risk, particularly those identified through Sufficiency Stress Test margin calls, and take steps to reduce potential default risks so that it can continue to promote the prompt and accurate clearance and settlement of securities and derivatives transactions consistent with Section

---

37 Additionally, because VIX futures are used to calculate theoretical values for VIX options, the proposed enhancement would improve the pricing of both VIX futures and VIX options in OCC's stress testing methodology.

38 15 U.S.C. 78q-1(b)(3)(F).

17A(b)(3)(F) of the Act.[39]

Additionally, OCC proposes to standardize the margin risk component of its Clearing Fund allocation formula by using only STANS-based margin requirements for all Clearing Members. OCC believes it is appropriate to use the same margin risk measurement for all Clearing Members/accounts when determining Clearing Fund allocations since this allows for a more equitable comparison across all accounts through the utilization of a consistent margin methodology. OCC believes that the proposed changes would result in an allocation formula that determines Clearing Member contribution requirements that are commensurate to the risks posed by each Clearing Member. As a result, OCC believes the proposed rule change is designed to assure the safeguarding of securities and funds which are in its custody or control or for which it is responsible, and, in general, to protect investors and the public interest consistent with Section 17A(b)(3)(F) of the Act.[40]

OCC proposes to revise its Rules and Policy to provide that the cooling-off period and associated assessment caps apply to any proportionate charge related to a Clearing Member default, including any use of the Clearing Fund to make good losses or expenses suffered by OCC or as a result of a borrowing by OCC (1) in connection with protective transactions effected

---

39 Id.

40 Id. OCC also believes that by standardizing the margin risk component of its Clearing Fund allocation formula the proposed rule change promotes compliance with the requirement of Section 17A(b)(3)(F) of the Act that a clearing agency's rules not be designed to permit unfair discrimination among participants in the use of the clearing agency.

for the account of OCC pursuant to Chapter XI of the Rules and (2) as a result of a failure of any Clearing Member to make any other required payment or render any other required performance, and are not limited to a certain subset of Clearing Member default-related events. The proposed rule change would ensure that the cooling-off period and associated assessment caps are consistently applied for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a) and thereby ensure that OCC can fully access and utilize its Clearing Fund resources to continue to provide prompt and accurate clearance and settlement of securities and derivatives transactions consistent with Section 17A(b)(3)(F) of the Act[41] if such events were to occur.

OCC also proposes to make clarifying, streamlining, and organizational changes to the Methodology Description that are not intended to change the substance of OCC's stress testing and Clearing Fund methodology, but that OCC believes would improve the clarity and readability of the document. OCC believes that by improving the clarity of the primary documents governing OCC's Clearing and stress testing requirements the proposed changes are designed, in general, to protect the investors and the public interest in a manner consistent with Section 17A(b)(3)(F) of the Act.[42]

Consistency with Rule 17Ad-22 Under the Exchange Act

---

41 Id.

42 Id.

Rule 17Ad-22(b)(3)[43] requires a registered clearing agency that performs central counterparty services to establish, implement, maintain and enforce written policies and procedures reasonably designed to maintain sufficient financial resources to withstand, at a minimum, a default by the participant family to which it has the largest exposure in extreme but plausible market conditions. Rules 17Ad-22(e)(4)(iii) and (iv)[44] further require, in part, that a 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 maintaining additional financial resources (beyond those collected as margin or otherwise maintained to meet the requirements of Rule 17Ad-22(e)(4)(i))[45] at the minimum to enable it to cover a wide range of foreseeable stress scenarios that include, but are not limited to, the default of the participant family that would potentially cause the largest aggregate credit exposure for the covered clearing agency in extreme but plausible market conditions and do so exclusive of assessments for additional guaranty fund contributions or other resources that are not prefunded.

The proposed rule change would enhance OCC's stress testing methodology and overall resiliency by providing a more comprehensive suite of Sizing Stress Tests to ensure that OCC

---

43 17 CFR 240.17Ad-22(b)(3).

44 17 CFR 240.17Ad-22(e)(4)(iii) and (iv).

45 17 CFR 240.17Ad-22(e)(4)(i).

maintains an appropriate level of Pre-Funded Financial Resources to cover its credit exposures under scenarios addressing both systemic market risks and idiosyncratic risks. The proposed Idiosyncratic Scenarios would supplement OCC's current set of Sizing Scenarios, which are generally designed to estimate risk exposures arising from more broad-based market and systemic shocks reflected in OCC's Systemic Scenarios, by enabling OCC to appropriately consider the risks of extreme moves in individual or small subsets of securities. OCC therefore believes that the proposed rule change would enhance OCC's overall framework for managing credit risks and reduce the risk that its Pre-Funded Financial Resources would be insufficient in an actual default.

In addition, OCC proposes to enhance its stress testing methodology by using SPX at-the-money implied volatility shocks across different expirations to model price shocks for VIX futures contracts for corresponding expirations as opposed to using a uniform shock for all expirations. The proposed rule change is designed to more accurately measure OCC's credit exposure in its stress scenarios by producing price shocks for VIX futures that would vary based on the expiration as is more realistically observed in the market.

Taken together, OCC believes the proposed changes are reasonably designed so that OCC can measure its credit exposures to its participants and manage such exposures by maintaining sufficient financial resources at a minimum to enable it to cover a wide range of foreseeable stress scenarios that include, but are not limited to, the default of the participant family that would potentially cause the largest aggregate credit exposure for OCC in extreme but

plausible market conditions (and do so exclusive of assessments for additional Clearing Fund contributions or other resources that are not prefunded). For these reasons, OCC believes the proposed changes are consistent with Rule 17Ad-22(b)(3) and Rules 17Ad-22(e)(4)(iii) and (iv).[46]

Furthermore, Rule 17Ad-22(e)(4)[47] generally requires that a 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. OCC believes the proposed changes to its Sufficiency Stress Test monitoring process would improve its overall processes for monitoring and managing credit risk. OCC would revise the Policy to require that STLRM provide written notification to the Office of the CEO whenever a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital (in addition to the current requirement to provide notification for any margin call exceeding $500 million). The proposed change would allow OCC's senior management to be informed of, and to subsequently monitor, circumstances where a margin call may strain a particular Clearing Member's ability to meet such requirements based on its financial condition or the amount of collateral it has available to pledge when certain pre-identified thresholds have been exceeded. OCC therefore believes the proposed rule change is reasonably designed to help

---

46 17 CFR 240.17Ad-22(b)(3) and (e)(4)(iii) and (iv).

47 17 CFR 240. 17Ad-22(e)(4).

OCC identify, measure, and monitor its credit exposures to participants, particularly those identified through Sufficiency Stress Test margin calls, consistent with Rule 17Ad-22(e)(4).[48]

OCC also believes that the proposed changes to standardize the margin risk component of its Clearing Fund allocation formula by using only STANS-based margin requirements for all Clearing Members are reasonably designed to measure and manage its credit exposures to participants. With respect to the use of Clearing Funds and the requirements of Rule 17Ad-22(e)(4),[49] the Commission has noted that, to the extent that a clearing agency uses guaranty or clearing fund contributions to mutualize risk across participants, the clearing agency generally should value margin and guaranty fund contributions so that the contributions are commensurate to the risks posed by the participants' activity.[50] OCC believes it is appropriate to use the same margin risk measurement for all Clearing Members/accounts when determining Clearing Fund allocations since this allows for a more equitable comparison across all accounts and would result in contribution requirements that are commensurate to the risks posed by each Clearing Member. As a result, OCC believes the proposed changes are reasonably designed to comply

---

48 Id. OCC also believes that the proposed change to the Policy would: (1) provide for governance arrangements that specify clear and direct lines of responsibility consistent with the requirements of Rule 17Ad-22(e)(2)(v) and (2) contribute to a sound risk management framework for identifying, measuring, monitoring and managing credit and other risks that arise in or are borne by OCC in furtherance of the requirements of Rule 17Ad-22(e)(3)(i). See 17 CFR 240.17Ad-22(e)(2)(v) and 17 CFR 240.17Ad-22(e)(3)(i).

49 Id.

50 See Securities Exchange Act Release No. 78961 (September 28, 2016), 81 FR 70786 (October 13, 2016) (S7-03-14) ("Standards for Covered Clearing Agencies") at 70813.

with the requirements of Rule 17Ad-22(e)(4).[51]

Rule 17Ad-22(e)(4)(ix)[52] requires that a 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 describing its process to replenish any financial resources it may use following a default or other event in which use of such resources is contemplated. OCC believes the proposed changes to its cooling-off period and associated assessment cap Rules would ensure that the cooling-off period and associated assessment caps are consistently applied for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a) and thereby ensure that OCC can fully access, utilize, and replenish its Clearing Fund resources to address any losses chargeable against the Clearing Fund and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes in a manner consistent with Rule 17Ad-22(e)(4)(ix).[53]

Finally, OCC believes the proposed clarifying, organizational, and streamlining changes to its Rules, Policy, and Methodology Description would improve the clarity and readability of its stress testing and Clearing Fund-related rules and policies are therefore consistent with the

---

51 Id.

52 17 CFR 240. 17Ad-22(e)(4).

53 Id.

Rule 17Ad-22(e)(4)[54] requirement that OCC maintain policies and procedures that are reasonably designed to effectively identify, measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes.

Item 4. Self-Regulatory Organization's Statement on Burden on Competition

Section 17A(b)(3)(I) of the Act[55] requires that the rules of a clearing agency not impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act. OCC does not believe the proposed rule change would impose any burden on competition. First, OCC proposes to introduce new Idiosyncratic Scenarios for OCC's inventory of Sizing Stress Tests. OCC does not believe that introducing the Idiosyncratic Scenarios would have an impact on competition. As part of OCC's Sizing Stress Tests, the Idiosyncratic Scenarios would impact all Clearing Members similarly and would not impact individual Clearing Member allocations. In addition, based on analysis performed by OCC, OCC expects that the worst-case Cover 2 Idiosyncratic Scenario shortfall amounts would generally fall below OCC's current 1-in-80 year market event Sizing Scenarios and therefore would not ordinarily have a material impact on the size of the Clearing Fund.[56] Accordingly, OCC does not believe the proposed change would have any impact or burden on competition.

---

54 17 CFR 240. 17Ad-22(e)(4).

55 15 U.S.C. 78q-1(b)(3)(I).

56 OCC has observed that there were certain circumstances where the Idiosyncratic Scenarios generated the largest shortfalls among OCC's Sizing Scenarios due to position increases relating to corporate action activity in very liquid securities; however, in these

OCC does not believe the proposed changes to its methodology for modeling VIX futures price shocks would have a material impact on competition. The proposed changes are designed to generate more realistic price shocks that better reflect observed market conditions, which could generally result in lower shortfalls in market decline scenarios. OCC expects that the proposed VIX futures changes would have minimal impact on the monthly sizing of the Clearing Fund; however, the proposed change may result in reduced shortfalls in OCC's Sufficiency Scenarios (particularly the historical 1987 market event scenario) and therefore result in less frequent Sufficiency Stress Test margin calls (or margin calls of a lower magnitude). The impact of the proposed change would depend on the composition of a Clearing Member's portfolio at a given time. Generally, Clearing Members with longer tenor positions in VIX future contracts or VIX options will experience a change in the profit and loss on the contracts. Where these positions are driving the shortfall in an account, the account would experience a change in shortfall due to the decrease in the amount of the shock, dependent on the position and direction of the shock for the scenario in question. When shortfalls increase, a large Clearing Member may be more likely to be subject to more frequent and/or larger Sufficiency Stress Test margin calls than under the current model. When shortfalls decrease, Clearing Members may be less likely to breach Sufficiency Thresholds and/or may experience smaller Sufficiency Stress Test margin calls as a result of the change. OCC does not believe that this would present an impact or

---

circumstances the size of the Clearing Fund would have been established at the minimum requirement of $6.3 billion under Rule 1001(b).

burden from a competitive standpoint, however. The proposed approach is simply intended to more accurately reflects the risks carried by Clearing Members and align any potential margins calls with this more accurate risk measure.

OCC also proposes to modify its Clearing Fund allocation methodology to standardize the margin risk component of the allocation formula for all members by using only the STANS base amount, plus certain add-on charges, in the Clearing Fund allocation process. Under the proposed change, Clearing Members with segregated futures accounts would typically see their Clearing Fund requirements decrease, while other Clearing Members' requirements would generally increase to balance out the full allocation of the Clearing Fund. While OCC acknowledges the impact of the proposed change on individual Clearing Member contribution requirements, OCC believes that using the same margin risk measurement for all Clearing Members/accounts when determining Clearing Fund allocations allows for a more equitable comparison across all accounts. As a result, OCC believes the proposed change would promote competition by standardizing its Clearing Fund allocation formula and treating all Clearing Members similarly in the allocation process.

In addition, OCC proposes changes to its cooling-off period and associated assessment cap rules that would ensure that the cooling-off period and associated assessment caps are consistently applied for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a). These changes would apply equally to all Clearing

Members and therefore OCC does not believe the proposed changes would have any impact or burden on competition.

Finally, OCC proposes to make clarifying changes to its Methodology Description, which are not expected to have any impact on competition. The proposed changes are not intended to materially change OCC's Clearing Fund or stress testing rules but are simply designed to provide more accuracy and clarity in OCC's methodology documentation. As a result, OCC does not believe the proposed changes would have any impact or burden on competition.

For the reasons set forth above, OCC believes that the proposed rule change would not impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act.

Item 5. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others

Written comments were not and are not intended to be solicited with respect to the proposed rule change and none have been received.

Item 6. Extension of Time Period for Commission Action

Not applicable.

Item 7. Basis for Summary Effectiveness Pursuant to Section 19(b)(3) or for Accelerated Effectiveness Pursuant to Section 19(b)(2) or Section 19(b)(7)(D)

Not applicable.

Item 8. Proposed Rule Change Based on Rule of Another Self-Regulatory Organization or of the Commission

Not applicable.

Item 9. Security-Based Swap Submissions Filed Pursuant to Section 3C of the Act

Not applicable.

Item 10. Advance Notices Filed Pursuant to Section 806(e) of the Payment, Clearing and Settlement Supervision Act

Not applicable.

Item 11. Exhibits

Exhibit 1A. Completed Notice of Proposed Rule Change for publication in the Federal Register.

Exhibit 3. Confidential Data and Analysis

Exhibit 5A. OCC Rules.

Exhibit 5B. Clearing Fund Methodology Policy.

Exhibit 5C. Stress Testing and Clearing Fund Methodology Description.

Exhibits 3, 5B and 5C have been omitted and filed separately with the Commission. Confidential treatment of Exhibits 3, 5B and 5C is requested pursuant to SEC Rule 24b-2 (17 CFR 240.24b-2).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, The Options Clearing Corporation has caused this filing to be signed on its behalf by the undersigned hereunto duly authorized.

THE OPTIONS CLEARING CORPORATION

By:_____
Justin W. Byrne
Vice President, Regulatory Filings

EXHIBIT 1A

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34-[_____]; File No. SR-OCC-2019-009)

October __, 2019

Self-Regulatory Organizations; The Options Clearing Corporation; Notice of Filing of Proposed Rule Change Related to Proposed Changes to The Options Clearing Corporation's Rules, Clearing Fund Methodology Policy, and Clearing Fund and Stress Testing Methodology

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Exchange Act" or "Act"),[1] and Rule 19b-4 thereunder,[2] notice is hereby given that on October 10, 2019, The Options Clearing Corporation ("OCC") filed with the Securities and Exchange Commission ("SEC" or "Commission") the proposed rule change as described in Items I, II, and III below, which Items have been prepared primarily by OCC. 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

The proposed rule change is filed in connection with proposed enhancements to OCC's Clearing Fund and stress testing rules and methodology designed to: (1) incorporate a new set of stress test scenarios to be used in the monthly sizing of OCC's Clearing Fund that are designed to capture the risks of extreme moves in individual or small subsets of securities; (2) enhance OCC's stress testing methodology for modeling certain volatility index futures; (3) modify OCC's methodology for allocating Clearing Fund contribution requirements to standardize the margin risk component of the

---

1 15 U.S.C. 78s(b)(1).

2 17 CFR 240.19b-4.

allocation formula for all Clearing Members; (4) adopt an additional threshold for notifying senior management of intra-day margin calls based on certain stress test results; (5) correct certain rules concerning OCC's cooling-off period and replenishment/assessment powers; and (6) make other clarifying and conforming changes to OCC's Rules, Clearing Fund Methodology Policy ("Policy"), and Stress Testing and Clearing Fund Methodology Description ("Methodology Description")

The proposed amendments to OCC's Rules can be found in Exhibit 5A. Proposed changes to the Policy can be found in Exhibit 5B. Proposed changes to the Methodology Description can be found in Exhibit 5C. Material proposed to be added to the Rules, Policy, and Methodology Description as currently in effect is marked by underlining, and material proposed to be deleted is marked in strikethrough text.[3] The proposed changes are described in detail in Item II below.

The proposed rule change is available on OCC's website at https://www.theocc.com/about/publications/bylaws.jsp. All terms with initial capitalization that are not otherwise defined herein have the same meaning as set forth in the OCC By-Laws and Rules.[4]

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

In its filing with the Commission, OCC 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

---

3 OCC also has filed an advance notice with the Commission in connection with the proposed changes. See SR-OCC-2019-806.

4 OCC's By-Laws and Rules can be found on OCC's public website: http://optionsclearing.com/about/publications/bylaws.jsp.

the places specified in Item IV below. OCC 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

Background

In September 2018, OCC implemented new rules for sizing and monitoring its Clearing Fund and overall Pre-Funded Financial Resources,[5] which included the adoption of a new Policy and Methodology Description.[6] Under the requirements of the Policy, OCC bases its determination of the Clearing Fund size on the results of stress tests conducted daily using standard predetermined parameters and assumptions. These daily stress tests consider a range of relevant stress scenarios and possible price changes in liquidation periods, including but not limited to: (1) relevant peak historic price volatilities; (2) shifts in other market factors including, as appropriate, price determinants and yield curves; and (3) the default of one or multiple Clearing Members. OCC also conducts reverse stress tests for informational purposes aimed at identifying extreme default scenarios and extreme market conditions for which the OCC's financial resources may be insufficient.

---

5 The Policy defines OCC's "Pre-Funded Financial Resources" to mean margin of the defaulted Clearing Member and the required Clearing Fund less any deficits, exclusive of OCC's assessment powers.

6 On July 26, 2018, the Commission issued a Notice of No Objection to an advance notice by OCC concerning the adoption of a new stress testing and Clearing Fund methodology. See Securities Exchange Act Release No. 83714 (July 26, 2018), 83 FR 37570 (August 1, 2018) (SR-OCC-2018-803). On July 27, 2018, the Commission approved a proposed rule change by OCC concerning the same proposal. See Securities Exchange Act Release No. 83735 (July 27, 2018), 83 FR 37855 (August 2, 2018) (SR-OCC-2018-008).

As described in the Methodology Description, the newly adopted methodology includes two types of scenarios: "Historical Scenarios" and "Hypothetical Scenarios." Historical Scenarios intend to replicate historical events in current market conditions, which includes the set of currently existing securities, their prices, and volatility levels. These scenarios provide OCC with information regarding pre-defined reference points determined to be relevant benchmarks for assessing OCC's exposure to Clearing Members and the adequacy of its financial resources. Hypothetical Scenarios represent events in which market conditions change in ways that have not yet been observed. The Hypothetical Scenarios are derived using statistical methods (e.g., draws from estimated multivariate distributions) or created based on a mix of statistical techniques and expert judgment (e.g., a 15% decline in market prices and 50% increase in volatility). These scenarios give OCC the ability to change the distribution and level of stress in ways necessary to produce an effective forward-looking stress testing methodology. OCC uses these pre-determined stress scenarios in stress tests, conducted on a daily basis, to determine OCC's risk exposure to each Clearing Member Group by simulating the profits and losses of the positions in their respective account portfolios under each such stress scenario.

Under the Policy and Methodology Description, OCC performs daily stress testing using a wide range of scenarios, both Hypothetical and Historical, designed to serve multiple purposes. OCC's proposed stress testing inventory contains scenarios designed to: (1) determine whether the financial resources collected from all Clearing Members collectively are adequate to cover OCC's risk tolerance ("Adequacy Scenarios," and such scenarios collectively constituting "Adequacy Stress Tests"); (2)

establish the monthly size of the Clearing Fund necessary for OCC to maintain sufficient Pre-Funded Financial Resources to cover losses arising from the default of the two Clearing Member Groups that would potentially cause the largest aggregate credit exposure to OCC as a result of a 1-in-80 year hypothetical market event ("Sizing Scenarios," and such scenarios collectively constituting "Sizing Stress Tests"); (3) measure the exposure of the Clearing Fund to the portfolios of individual Clearing Member Groups, and determine whether any such exposure is sufficiently large as to necessitate OCC calling for additional resources so that OCC continues to maintain sufficient financial resources to guard against potential losses under a wide range of stress scenarios, including extreme but plausible market conditions ("Sufficiency Scenarios," and such scenarios collectively constituting "Sufficiency Stress Tests");[7] and (4) monitor and assess the size of OCC's Pre-Funded Financial Resources against a wide range of stress scenarios that may include extreme but implausible and reverse stress

---

[7] Under OCC Rule 609, the Policy, and the Methodology Description, if a Sufficiency Stress Test identifies exposures that exceed 75% of the current Clearing Fund requirement less deficits (the "75% threshold" or "Sufficiency Stress Test Threshold 1"), OCC may require additional margin deposits from the Clearing Member Group(s) driving the breach. All such margin calls must be approved by a Vice President (or higher) of OCC's Financial Risk Management department ("FRM"); however, if the margin call imposed on an individual Clearing Member exceeds $500 million, OCC's Stress Testing and Liquidity Risk Management group ("STLRM") must provide written notification to OCC's Executive Chairman, Chief Executive Officer, and Chief Operating Officer (collectively referred to as the "Office of the Chief Executive Officer" or "OCEO"). Additionally, under Rule 1001(c) (and as described in the Policy and Methodology Description), if a Sufficiency Stress Test were to identify a Clearing Fund Draw for any one or two Clearing Member Groups that exceed 90% of the current Clearing Fund size (after subtracting any monies deposited as a result of a margin call in accordance with a breach of Sufficiency Stress Test Threshold 1), OCC has the authority to effect an intra-month resizing of the Clearing Fund to ensure that it continues to maintain sufficient prefunded financial resources. See supra note 6.

testing scenarios ("Informational Scenarios," and such scenarios collectively constituting "Informational Stress Tests").[8]

In addition, under the Rules, Policy, and Methodology Description, individual Clearing Members' Clearing Fund contribution requirements are determined using a risk-based allocation methodology of 70% "total risk," 15% volume, and 15% open interest using a one-month look-back period. For purposes of allocating Clearing Fund contributions, "total risk" is defined to mean the margin requirement calculated and reported by OCC with respect to all accounts of a Clearing Member less the net asset value of the positions in such accounts aggregated across all such accounts.

Proposed Changes

OCC proposes to enhance its Clearing Fund and stress testing framework by: (1) adopting a new set of stress scenarios to be used in the monthly sizing of OCC's Clearing Fund that are designed to capture the risks of extreme moves in individual or small subsets of securities ("Idiosyncratic Scenarios"); (2) improving its model for determining price shocks for futures on the Cboe Volatility Index ("VIX")[9] (such futures contracts hereinafter referred to as "VIX futures"); (3) modifying the methodology for allocating Clearing Fund contribution requirements to standardize the margin risk component of the allocation formula for all Clearing Members; (4) adopting an additional threshold for notifying senior management of certain intra-day margin calls based on Sufficiency Stress Test results; (5) correcting certain rules concerning OCC's cooling-off period and

---

8 OCC notes that its Adequacy and Informational Stress Tests are not used to size the Clearing Fund or drive calls for additional financial resources.

9 The VIX is an index designed to measure the 30-day expected volatility of the Standard & Poor's 500 index ("SPX").

replenishment/assessment powers; and (6) making certain other clarifying and conforming changes to OCC's Rules, Policy, and Methodology Description. The proposed changes are described in detail below.

1. Introduction of Idiosyncratic Scenarios in Sizing Stress Tests

OCC proposes to revise its Policy and Methodology Description to incorporate into its inventory of Sizing Stress Tests a new set of Idiosyncratic Scenarios that are designed to capture the risks of extreme moves in individual or small subsets of securities. As noted above, OCC's Sizing Stress Tests are used to establish the monthly size of the Clearing Fund necessary for OCC to maintain sufficient Pre-Funded Financial Resources to cover losses arising from the default of the two Clearing Member Groups that would potentially cause the largest aggregate credit exposure to OCC in extreme but plausible market conditions. The proposed Idiosyncratic Scenarios would supplement OCC's current set of Sizing Scenarios (which are generally designed to estimate risk exposures arising from more broad-based market and systemic shocks ("Systemic Scenarios") and would allow OCC to identify forward-looking, non-systemic market events that may impact its Pre-Funded Financial Resource requirements. Like other Sizing Scenarios, the proposed Idiosyncratic Scenarios may be used to determine the monthly size of Clearing Fund when projected exposures from the Idiosyncratic Scenarios are greater than OCC's other Sizing Scenarios.

The proposed Idiosyncratic Scenarios are designed to capture the risk of extreme non-systemic market moves on single-name securities through individual rally and decline shocks. Under the proposed methodology for Idiosyncratic Scenarios, every single-name equity (i.e., excluding exchange-traded funds, exchange-traded notes,

indices, and non-equity products) in a portfolio is shocked by a fixed extreme idiosyncratic up and down move. In order to determine these fixed shocks, single-name equities would be classified as either large or small capitalization (referred to herein as "large cap" and "small cap," respectively) and the shocks would be constructed based on the market capitalization classification and direction of the price (e.g., the four potential idiosyncratic moves would be large cap up, large cap down, small cap up, and small cap down. The fixed price shocks would be calibrated from historical price return data such that the probability of the idiosyncratic moves is comparable to OCC's Systemic Sizing Scenarios and the probability in all four scenarios would be approximately equal. The profit and loss (P/L) contribution for each name is then calculated for the portfolio using both up and down moves, and the worst loss from the two P/L moves is chosen as the direction of the idiosyncratic move for each name. Next, the four names with the worst P/L (along with the direction of extreme move) are chosen for the portfolio, providing the four names for every portfolio within a Clearing Member Group. Then the risk exposure (P/L) is aggregated at the Clearing Member Group-level using each set of four names. The worst shortfall generated is the idiosyncratic risk of the Clearing Member Group, and the largest two Clearing Member Group exposures are used to determine the Cover 2 Idiosyncratic Scenario Clearing Fund size.

OCC believes that implementing the proposed Idiosyncratic Scenarios would enhance OCC's stress testing methodology and overall resiliency by providing a more comprehensive suite of Sizing Stress Tests to ensure that OCC maintains an appropriate level of Pre-Funded Financial Resources to cover its credit exposures under scenarios addressing both systemic market risks and idiosyncratic risks.

2. Enhancements for Modeling Shocks on VIX Futures

OCC also proposes to enhance its methodology for modeling price shocks for VIX futures. Under OCC's current stress testing methodology, prices shocks for VIX futures are equivalent to the price shock for the underlying VIX index. OCC believes that this approach is unrealistic in that it produces a uniform shock across expirations of the VIX futures contract, which leads to an overestimation of VIX futures price shocks, particularly in market decline scenarios. Futures contracts for different expirations generally trade at different prices reflecting the differing future price expectations of the underlying asset.[10] Accordingly, OCC believes that the size of the price shocks produced by its stress testing methodology should vary based on the expiration of each contract as is more realistically observed in the market.

OCC proposes to enhance its stress testing methodology (and specifically, Section 3.4 of the Methodology Description) by using SPX at-the-money implied volatility shocks across different expirations to model forward volatility to generate shocks for VIX futures contracts for the corresponding expirations. OCC believes the proposed model enhancements would produce more appropriate VIX futures price shocks in its stress scenarios because it would produce differing price shocks across the term structure as is

---

10 When there is a large shock to the VIX it has consistently been observed that the change in price of near-term VIX future contracts is much larger than for further out expirations. For instance, on 2/5/2018 when the near-term VIX future contract expiring on 2/16/2018 increased by 113% the following standard expirations increased by less: 87% for 3/21/2018; 64% for 4/18/2018; 37% for 5/16/2018; and less than 30% for all further expirations. For all other days within the past 5 years with one-day VIX increases of over 45%, similar patterns were observed of a decreasing VIX future term structure of shocks (8/21/2015, 8/24/2015, 6/24/2016 and 5/17/2017).

generally observed in the market.[11] For example, OCC has observed that VIX futures price shocks obtained from the enhanced model for varying expirations is similar to the actual VIX futures market prices when tested on historical stress periods. Additionally, because VIX futures are used to calculate theoretical values for VIX options, OCC believes the proposed enhancement would improve the pricing of both VIX futures and VIX options in OCC's stress testing methodology.

3. Modifications to Clearing Fund Allocation Weighting Methodology

OCC proposes to modify its allocation methodology for determining individual Clearing Members' Clearing Fund requirements. As part of OCC's recently adopted stress testing and Clearing Fund methodology, OCC moved to a more risk-based method for allocating Clearing Fund requirements.[12] Clearing Fund allocations are currently based on a weighting of 70% margin risk, 15% open interest, and 15% cleared volume. The margin risk component of the allocation formula, known as "total risk," is based on the total margin requirement calculated and reported by OCC with respect to all accounts of a Clearing Member less the net asset value of the positions in such accounts aggregated across all such accounts over a one-month look-back period compared to the aggregate of total risk across all Clearing Members.[13] While the majority of margin requirements used in the allocation formula are STANS-based margin requirements,[14]

---

11 Id.

12 See supra note 6.

13 See OCC Rule 1003(b)(i). OCC removes net asset value from the "total risk" component of the allocation formula because it does not reflect a risk measure but rather represents the value of contracts and collateral held in a Clearing Member's accounts.

14 The System for Theoretical Analysis and Numerical Simulations (or "STANS") is OCC's proprietary risk management system for calculating Clearing Member

certain Clearing Members' accounts (and thus their allocations) are more heavily impacted by margin requirements calculated using the Standard Portfolio Analysis of Risk Margin Calculation System ("SPAN") that reflects customer gross margining, which may result in higher risk charges than net margining with STANS for the same account.[15]

OCC proposes to standardize the margin or "total risk" component of its Clearing Fund allocation formula for all members by using only the STANS base amount, plus certain add-on charges[16] as may be determined by OCC pursuant to its policies and procedures. OCC believes it is more appropriate to use the same margin risk

---

margin requirements. See Securities Exchange Act Release No. 53322 (February 15, 2006), 71 FR 9403 (February 23, 2006) (SR-OCC-2004-20). A detailed description of the STANS methodology is available at http://optionsclearing.com/risk-management/margins/.

15 Pursuant to OCC Rule 601(e)(1), in additions to STANS-based requirements, OCC calculates initial margin requirements for segregated futures accounts on a gross basis using SPAN. Commodity Futures Trading Commission ("CFTC") Rule 39.13(g)(8), requires, in relevant part, that derivatives clearing organizations ("DCOs") collect initial margin for customer segregated futures accounts on a gross basis. While OCC uses SPAN to calculate initial margin requirements for segregated futures accounts on a gross basis, OCC believes that margin requirements calculated on a net basis (i.e., permitting offsets between different customers' positions held by a Clearing Member in a segregated futures account using STANS) affords OCC additional protections at the clearinghouse level against risks associated with liquidating a Clearing Member's segregated futures account. As a result, OCC calculates margin requirements for segregated futures accounts using both SPAN on a gross basis and STANS on a net basis, and if at any time OCC staff observes a segregated futures account where initial margin calculated pursuant to STANS on a net basis exceeds the initial margin calculated pursuant to SPAN on a gross basis, OCC collateralizes this risk exposure by applying an additional margin charge in the amount of such difference to the account. See Securities Exchange Act Release No. 72331 (June 5, 2014), 79 FR 33607 (June 11, 2014) (SR-OCC-2014-13). SPAN is a methodology developed by the Chicago Mercantile Exchange and used by many clearinghouses and exchanges around the world to calculate margin requirements on futures and options on futures.

16 Under OCC's Margin Policy, OCC may collateralize certain exposures that may be modeled outside of STANS using add-on charges.

measurement for all Clearing Members/accounts when determining Clearing Fund allocations since this allows for a more equitable comparison across all accounts through the utilization of a consistent margin methodology. Accordingly, OCC proposes to modify the definition of "total risk" in Rule 1003(b)(i) to mean "a risk measure aggregated across all accounts of a Clearing Member determined using the Corporation's margin methodology and such add-on charges as may be determined pursuant to the Corporation's policies and procedures." OCC also proposes to make conforming to changes to its Policy and Methodology Description to reflect the new definition of "total risk."

4. New Sufficiency Stress Test Notification Threshold

OCC also proposes to adopt a new internal notification threshold for intra-day margin calls resulting from its Sufficiency Stress Tests. Under existing Rule 609, the Policy, and the Methodology Description, if a Sufficiency Stress Test identifies a Clearing Fund Draw[17] for any one or two Clearing Member Groups that exceeds Sufficiency Stress Test Threshold 1, OCC is authorized to issue a margin call against the Clearing Member Group(s) and/or Clearing Member(s) causing the breach.[18] All Sufficiency Stress Test margin calls are required to be approved by a Vice President (or higher) of FRM; however, if the margin call imposed on an individual Clearing Member exceeds $500 million, the STLRM group must provide written notification to the Office of the CEO. If the margin call imposed on an individual Clearing Member would exceed 100% an individual Clearing Member's net capital, the issue is then escalated to the

---

17 The term "Clearing Fund Draw" refers to an estimated stress loss exposure in excess of margin requirements.

18 See supra notes 6 and 7.

Office of the CEO, and each of the Executive Chairman, Chief Executive Officer, and Chief Operating Officer have the authority to determine whether OCC should continue calling for additional margin in excess of this amount.

OCC proposes to revise the Policy to require that STLRM provide written notification to the Office of the CEO whenever a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital (in addition to the current requirement to provide notification for any margin call exceeding $500 million). OCC believes that this additional notification requirement is appropriate because it will allow OCC's senior management to be informed as soon as practicable of, and to subsequently monitor, circumstances where a margin call may strain a particular Clearing Member's ability to meet such requirements based on its financial condition or the amount of collateral it has available to pledge when certain pre-identified thresholds have been exceeded.[19]

5. Correction of Cooling-Off Period and Replenishment/Assessment Power Rules

OCC proposes several corrections to its Rules and Policy concerning its cooling-off period and Clearing Fund replenishment/assessment powers. As part of OCC's recently approved filings to implement enhanced and new recovery tools ("Recovery Tools Filings"), OCC adopted a minimum 15-day "cooling-off period" with a cap on

---

[19] For example, if a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital, and such Sufficiency Stress Test also results in Clearing Fund draws for any one or two Clearing Member Groups that exceed 90% of the current Clearing Fund size, OCC may choose to resize the Clearing Fund on an intra-month basis rather than continuing to call for additional margin from a Clearing Member whose ability to meet such a call may be strained. See supra notes 6 and 7.

Clearing Fund assessments.[20] OCC Rule 1006(h) currently provides that the cooling-off period is triggered when any amount is paid out of the Clearing Fund as a result of a proportionate charge resulting from any of the events described in clauses (i) through (iv) of Rule 1006(a).[21] The actual intention of the Recovery Tools Filings, however, was to capture any proportionate charges related to the default of a Clearing Member,[22] which would also include any use of the Clearing Fund to make good losses or expenses suffered by OCC or as a result of a borrowing by OCC: (1) in connection with protective transactions effected for the account of OCC pursuant to Chapter XI of the Rules and (2)

---

20 On August 23, 2018, the Commission issued a Notice of No Objection to an advance notice by OCC concerning changes to OCC's Rules and By-Laws to enhance OCC's existing tools to address the risks of liquidity shortfalls and credit losses and to establish new tools by which OCC could re-establish a matched book and, if necessary, allocate uncovered losses following the default of a Clearing Member as well as provide for additional financial resources. See Securities Exchange Act Release No. 83927 (August 23, 2018), 83 FR 44083 (August 29, 2018) (SR-OCC-2017-809). On August 23, 2018, the Commission approved a proposed rule change by OCC concerning the same proposal. See Securities Exchange Act Release No. 83916 (August 23, 2018), 83 FR 44076 (August 29, 2018) (SR-OCC-2017-020).

21 These clauses include the following events: (i) failure of any Clearing Member to discharge duly any obligation on or arising from any confirmed trade accepted by the Corporation; (ii) failure of any Clearing Member (including any Appointed Clearing Member) or of CDS to perform its obligations (including its obligations to the correspondent clearing corporation) under or arising from any exercised or assigned option contract or matured future or any other contract or obligation issued, undertaken, or guaranteed by the Corporation or in respect of which the Corporation is otherwise liable; (iii) failure of any Clearing Member to perform any of its obligations to the Corporation in respect of the stock loan and borrow positions of such Clearing Member; and (iv) any liquidation of a Clearing Member's open positions.

22 See e.g., Securities Exchange Act Release No. 83927 (August 23, 2018), 83 FR 44083, 44077 (August 29, 2018) (SR-OCC-2017-809) (providing that "[t]he proposal would introduce a minimum fifteen calendar day 'cooling-off' period that automatically begins when OCC imposes a proportionate charge related to the default of a Clearing Member against non-defaulting Clearing Members' Clearing Fund contributions.").

as a result of a failure of any Clearing Member to make any other required payment or render any other required performance (as provided in clauses (v) and (vi) of Rule 1006(a)). OCC therefore proposes to revise its Rules and Policy to more correctly reflect that the cooling-off period and associated assessment caps apply for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a). The proposed rule change would ensure that all proportionate charges associated with a Clearing Member default are treated consistently as was originally intended with the adoption of the cooling-off period and modification of OCC's replenishment/assessment powers in the Recovery Tools Filings.

6. Other Clarifying and Conforming Changes

Finally, OCC proposes a number of clarifying, streamlining, and organizational changes to the Methodology Description that are not intended to change the substance of OCC's stress testing and Clearing Fund methodology, but that OCC believes would improve the clarity and readability of the document. The proposed changes to the Methodology Description are described below.

Proposed Changes to the Executive Summary

OCC proposes to revise the model scope discussion of the executive summary to provide a summary of the netting rules and positions sets used for stress testing and to break out different sections for the discussion of Systemic Scenarios and Idiosyncratic Scenarios. The executive summary would also be revised to provide additional information regarding the key assumptions of OCC's stress testing and Clearing Fund methodology. In addition, the Model Performance section of the executive summary

would be revised to provide further information on supporting documentation for OCC's stress testing.

Proposed Changes to the Description of Stress Test Portfolio Construction

OCC also proposes to revise its Methodology Description to provide additional details regarding the construction of stress testing portfolios. For example, the proposed revisions would discuss OCC's process for creating the "Synthetic Accounts" used in stress testing. Clearing Member positions are initially held in "Tier Accounts" that have the same business type (e.g., omnibus customer accounts, combined market maker accounts, firm accounts) and cross-margining relationship with other clearinghouses (if applicable). For the purpose of stress testing, OCC considers liquidation positions, where Tier Account level positions are further aggregated into Synthetic Accounts. The rules that govern the netting process and permissible offsets are based on account structures outlined in OCC's By-Laws and Rules.[23] The proposed revisions would also remove the discussion of "marginable positions," which are used to calculate margin requirements, since marginable positions are not relevant to OCC's Clearing Fund and stress testing methodology requirements and OCC's various account structures and the manner in which such accounts are margined is covered in OCC's By-Laws, Rules, and Margin Policy. In addition, the proposed revisions would restate in descriptive terms the calculation for determining total credit loss shortfalls.

The proposed revisions would also provide further clarity and detail concerning the aggregation of account-level stress test results. A key aspect of the aggregation of business type accounts is that some accounts have a restricted lien, in which assets in that

---

[23] See e.g., OCC Rules 601, 602, 611.

account can only be used to offset losses in that business type account, while other accounts have a general lien, in which assets or gains in that account can be used to offset losses in any business type account of the same Clearing Member. The Methodology Description would be revised to summarize OCC's process for determining if an account is a general lien account or restricted lien account and for ensuring that such accounts receive proper netting treatment.

Proposed Changes to the Description of OCC's Stress Testing Model

In addition, OCC proposes a number of changes to its Methodology Description to improve the description of the models used in OCC's stress testing and Clearing Fund methodology. For example, the Methodology Description would be revised to provide additional context around the types of scenarios (e.g., Systemic Scenarios and Idiosyncratic Scenarios) that stress testing models are used to create. The proposed changes would also provide a more straightforward discussion around the use and selection of risk drivers used to represent risk factors in OCC's one-factor stress testing model.[24] OCC notes that under the current Methodology Description, risk drivers and their mappings are subject to periodic review and change by OCC's Stress Test Working Group ("STWG"). The Methodology Description currently contains a non-exhaustive, sample set of risk drivers as of March 2018. OCC is proposing to replace the sample set of risk drivers with a more general list of risk drivers that may be used per risk factor type to ensure the ongoing accuracy and clarity of OCC's methodology documentation as the

---

[24] "Risk factors" refer broadly to all of the individual underlying securities (such as Google, IBM and Standard & Poor's Depositary Receipts ("SPDR"), S&P 500 Exchange Traded Funds ("SPY"), etc.) listed on a market. "Risk drivers" are a selected set of securities or market indices (e.g., SPX or VIX) that are used to represent the main sources or drivers for the price changes of the risk factors.

risk drivers change through the STWG governance process. The proposed revisions would also provide additional details around STWG's process for approving the addition, change or retiring of risk drivers. Changes to risk drivers may be based on, among other things: changing business needs, new product launches, open interest, or other changes in product mix. Moreover, when adding, changing, or retiring risk drivers, STWG would consider factors including, but not limited to: contract specifications (e.g. a derivative's underlying asset, the asset classification of a product), the relationship between proposed new products and existing risk drivers, the correlation between risk drivers and risk factors, and/or quality of available data. STWG may also approve the retirement and removal of a risk driver that has no risk factors mapped to it or if the risk driver itself is delisted. In addition, OCC would revise the methodology description to further clarify that, unlike annual recalibrations, the STWG would only approve quarterly recalibration of risk driver shocks when warranted (and not as a matter of course). The Methodology Description would also be updated to note that risk drivers and their mappings are maintained by the STLRM group and are available in the stress testing system. OCC does not believe that these proposed changes constitutes a material or substantive change in OCC's Methodology Description but rather more appropriately documents OCC's process for maintaining and updating risk drivers.[25]

---

[25] OCC notes that the Methodology Description would continue to specify that SPX and VIX are the main risk drivers for shocks of equity risk factors as equity risk factors make up the vast majority of volume, open interest, and risk at OCC. Due to the nature of equity risk factors, OCC's stress testing methodology treats equity risk factors in a standard and consistent fashion with respect to the mapping of risk drivers. Non-equity products, such as commodity futures and certain exchange-traded products (e.g., ETFs and ETNs), may have different risk drivers or risk drivers may change due to the evolving nature of the securities markets and the products OCC clears. Consequently, OCC believes it is necessary to

In addition, OCC proposes to revise the Methodology Description to provide a more straightforward discussion of the modeling of risk factor returns and price shocks for Hypothetical and Historical Scenarios and for OCC's various cleared products. Specifically, OCC proposes clarifying, streamlining, and organizational changes to the description of its modeling of volatility shocks for risk factors with SPX as the risk driver and for non-SPX driven risk factors. The proposed changes would also provide additional details on OCC's volatility modeling for flexibly structured options (or "flex options"),[26] for which shocked implied volatility is calculated from shocked implied volatilities of regular options.

OCC also proposes to replace a section specifically discussing price shocks for products where the underlying security is a basket of deliverable obligation securities with a more generalized discussion of OCC's approach to modeling price shocks for products with multiple risk factors as the underlying. In this case, the Methodology Description would describe how the underlyings are shocked by applying the one-factor model to each component risk factor. In addition, this proposed change would eliminate a restriction limiting the methodology to an "all or none" approach where price shocks are modeled using either all historical shocks or all shocks derived from OCC's beta

---

maintain appropriate flexibility to adjust risk drivers as evolving circumstances warrant through the established STWG governance process.

26 Flex options are options that give investors the ability to customize basic option features including size, expiration date, exercise style, and certain exercise prices that do not correspond to the terms of any series of non-flexibly structured options previously opened for trading on an Exchange. See OCC By-Laws, Article I., Section 1.F.(8).

methodology[27] to provide appropriate flexibility for OCC to determine price shocks on an individual risk factor basis depending on whether historical data is available. This allows for consistency between the shocks of the basket and the shocks used to price products on the basket's components. The Methodology Description would also be revised to describe how, in the case of a leveraged product, shocks are determined using a leverage ratio with respect to its tracking index used as the default beta. OCC believes the proposed changes are more generally aligned with the intended purpose of the Methodology Description, which is designed, in general, to provide a general description of the materials aspects of OCC's stress testing and Clearing Fund methodologies.

Additionally, OCC proposes to correct a reference to the use of log returns in the calculation of volatility shocks to more accurately state that these calculations are currently made using two-day arithmetic returns. OCC's stress testing methodology utilizes two-day arithmetic returns to calculate these shocks to align with OCC's two-day liquidation horizon assumption for its margin methodology and the arithmetic returns used in its dynamic VIX calibration process.[28]

OCC also proposes to clarify that implied volatility shocks for Systemic Scenarios are based on the expected risk, or "variance," of the risk factor in a forward-looking period after the price shock as opposed to the "standard deviation." OCC believes that using the terms "variance" or "standard deviation" are essentially equivalent ways to

---

27 The "beta" is the sensitivity of a security with respect to its corresponding risk driver (i.e., the sensitivity of the price of the security relative to the price of the risk driver).

28 See supra note 6.

describe the equation; however, the term "variance" would more accurately reflect the terms of equation used in the document.

Proposed Changes to Description of Calibrations

OCC proposes to revise its Methodology Description to more correctly describe the approach for generating shocks for U.S. Treasuries and Canadian Government Bond by replacing the term "covariance" with "correlation." While the calibration does use a covariance matrix, the inputs to the calibration are normalized by their standard deviation and so the resulting matrix actually contains correlations. The correlation matrix is then scaled by standard deviation terms to generate interest rate shocks.[29]

Proposed Changes to Description of Stress Test Scenarios

Finally, OCC proposes to revise the Methodology Description to provide additional clarity around the use and calibration of risk driver shocks in Hypothetical, Historical and Idiosyncratic Scenarios. OCC would also remove specific references to certain risk drivers and parameters that are subject to periodic review and change through its internal governance processes. OCC would also update the sample table of stress test scenarios in the document to: (1) reflect the addition of the proposed Idiosyncratic Scenarios; (2) remove Informational Scenarios from the table, which do not drive financial resource determinations and are subject to periodic change; and (3) provide additional information on the type of price shock used for each scenario in the table. In addition, OCC proposes to remove certain language from the document that provides qualitative justification for OCC's Clearing Fund allocation methodology but does not have any relevance to the actual calculation of Clearing Fund allocations.

---

[29] OCC notes that this is a standard practice. See Litterman, Robert and Sheinkman, Jose, "Common Factors Affecting Bond Returns," *Journal of Fixed Income*, 1991.

Clearing Member Outreach

To inform Clearing Members of the proposed changes, OCC has provided an overview of the proposed changes to the Financial Risk Advisory Council ("FRAC"), a working group comprised of exchanges, Clearing Members and indirect participants of OCC. OCC has also performed direct outreach to Clearing Members that would be most impacted by the proposed changes. To-date, OCC has not received any material objections or concerns in response to this outreach.

Implementation Timing

OCC expects to implement the proposed changes within sixty (60) days after the date that OCC receives all necessary regulatory approvals for the proposed changes. OCC will announce the implementation date of the proposed change by an Information Memorandum posted to its public website at least two (2) weeks prior to implementation.[30]

(2) Statutory Basis

OCC believes the proposed rule change is consistent with requirements of the Act and rules and regulations thereunder applicable to registered clearing agencies. Specifically, OCC believes the proposed rule change is consistent with Section 17A(b)(3)(F) of the Act[31] and Rule 17Ad-22(b)(3)[32] and Rule 17Ad-22(e)(4)[33] thereunder, as described in further detail below.

---

30 OCC notes that the impact of certain changes, such as the proposed changes to the Clearing Fund allocation formula and potential for a new Idiosyncratic Scenario to set the size of the Clearing Fund, will not occur until the first monthly resizing of the Clearing Fund following the announced implementation date.

31 15 U.S.C. 78q-1(b)(3)(F).

32 17 CFR 240.17Ad-22(b)(3).

Consistency with the Section 17A(b)(3)(F) of the Exchange Act

Section 17A(b)(3)(F) of the Act[34] requires, among other things, that the rules of a clearing agency be designed to promote the prompt and accurate clearance and settlement of securities and derivatives transactions. Taken together, OCC believes the proposed changes are designed to enhance OCC's overall framework for managing credit risk and are consistent with Section 17A(b)(3)(F) of the Act[35] for the reasons set forth below.

OCC believes that implementing the proposed Idiosyncratic Scenarios would enhance OCC's stress testing methodology and overall resiliency by providing a more comprehensive suite of Sizing Stress Tests to ensure that OCC maintains appropriate level of Pre-Funded Financial Resources to cover its credit exposures under scenarios addressing both systemic market risks and idiosyncratic risks. As noted above, OCC's Sizing Stress Tests are used to establish the monthly size of the Clearing Fund necessary for OCC to maintain sufficient Pre-Funded Financial Resources to cover losses arising from the default of the two Clearing Member Groups that would potentially cause the largest aggregate credit exposure to OCC in extreme but plausible market conditions. The proposed Idiosyncratic Scenarios would supplement OCC's current set of Sizing Scenarios (which are generally designed to estimate risk exposures arising from more broad-based market and systemic shocks reflected in OCC's Systemic Scenarios) by enabling OCC to appropriately consider the risks of extreme moves in individual or small subsets of securities. OCC therefore believes that the proposed rule change would enhance OCC's overall framework for managing credit risks and reduce the risk that its

---

33 17 CFR 240.17Ad-22(e)(4).

34 15 U.S.C. 78q-1(b)(3)(F).

35 Id.

Pre-Funded Financial Resources would be insufficient in an actual default so that it can continue to provide prompt and accurate clearance and settlement of securities and derivatives transactions consistent with Section 17A(b)(3)(F) of the Act.[36]

In addition, OCC proposes to enhance its stress testing methodology to more accurately and appropriately model price shocks for VIX futures. Under OCC's current stress testing methodology, prices shocks for VIX futures are equivalent to the price shock for the underlying VIX index. OCC believes that this approach is unrealistic in that it produces a uniform shock across expirations of the VIX futures contract, which leads to an overestimation of VIX futures price shocks, particularly in market decline scenarios. OCC therefore proposes to enhance its stress testing methodology to produce more appropriate VIX futures price shocks that would vary based on the expiration of contracts as is more realistically observed in the market.[37] OCC believes the proposed changes would enhance OCC's framework for managing credit risk because it would result in more accurate and realistic stress testing results and are therefore designed to promote the prompt and accurate clearance and settlement of securities and derivatives transactions consistent with Section 17A(b)(3)(F) of the Act.[38]

OCC also proposes to revise the Policy to require that STLRM provide written notification to the Office of the CEO whenever a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital. The proposed change would allow OCC's senior management to be

---

36 Id.

37 Additionally, because VIX futures are used to calculate theoretical values for VIX options, the proposed enhancement would improve the pricing of both VIX futures and VIX options in OCC's stress testing methodology.

38 15 U.S.C. 78q-1(b)(3)(F).

informed of, and to subsequently monitor, circumstances where a margin call may strain a particular Clearing Member's ability to meet such requirements based on its financial condition or the amount of collateral it has available to pledge when certain pre-identified thresholds have been exceeded. OCC believes the proposed rule change would improve its process for monitoring and managing credit risk, particularly those identified through Sufficiency Stress Test margin calls, and take steps to reduce potential default risks so that it can continue to promote the prompt and accurate clearance and settlement of securities and derivatives transactions consistent with Section 17A(b)(3)(F) of the Act.[39]

Additionally, OCC proposes to standardize the margin risk component of its Clearing Fund allocation formula by using only STANS-based margin requirements for all Clearing Members. OCC believes it is appropriate to use the same margin risk measurement for all Clearing Members/accounts when determining Clearing Fund allocations since this allows for a more equitable comparison across all accounts through the utilization of a consistent margin methodology. OCC believes that the proposed changes would result in an allocation formula that determines Clearing Member contribution requirements that are commensurate to the risks posed by each Clearing Member. As a result, OCC believes the proposed rule change is designed to assure the safeguarding of securities and funds which are in its custody or control or for which it is responsible, and, in general, to protect investors and the public interest consistent with Section 17A(b)(3)(F) of the Act.[40]

---

39 Id.

40 Id. OCC also believes that by standardizing the margin risk component of its Clearing Fund allocation formula the proposed rule change promotes compliance with the requirement of Section 17A(b)(3)(F) of the Act that a clearing agency's

OCC proposes to revise its Rules and Policy to provide that the cooling-off period and associated assessment caps apply to any proportionate charge related to a Clearing Member default, including any use of the Clearing Fund to make good losses or expenses suffered by OCC or as a result of a borrowing by OCC (1) in connection with protective transactions effected for the account of OCC pursuant to Chapter XI of the Rules and (2) as a result of a failure of any Clearing Member to make any other required payment or render any other required performance, and are not limited to a certain subset of Clearing Member default-related events. The proposed rule change would ensure that the cooling-off period and associated assessment caps are consistently applied for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a) and thereby ensure that OCC can fully access and utilize its Clearing Fund resources to continue to provide prompt and accurate clearance and settlement of securities and derivatives transactions consistent with Section 17A(b)(3)(F) of the Act[41] if such events were to occur.

OCC also proposes to make clarifying, streamlining, and organizational changes to the Methodology Description that are not intended to change the substance of OCC's stress testing and Clearing Fund methodology, but that OCC believes would improve the clarity and readability of the document. OCC believes that by improving the clarity of the primary documents governing OCC's Clearing and stress testing requirements the

---

rules not be designed to permit unfair discrimination among participants in the use of the clearing agency.

41 Id.

proposed changes are designed, in general, to protect the investors and the public interest in a manner consistent with Section 17A(b)(3)(F) of the Act.[42]

Consistency with Rule 17Ad-22 Under the Exchange Act

Rule 17Ad-22(b)(3)[43] requires a registered clearing agency that performs central counterparty services to establish, implement, maintain and enforce written policies and procedures reasonably designed to maintain sufficient financial resources to withstand, at a minimum, a default by the participant family to which it has the largest exposure in extreme but plausible market conditions. Rules 17Ad-22(e)(4)(iii) and (iv)[44] further require, in part, that a 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 maintaining additional financial resources (beyond those collected as margin or otherwise maintained to meet the requirements of Rule 17Ad-22(e)(4)(i))[45] at the minimum to enable it to cover a wide range of foreseeable stress scenarios that include, but are not limited to, the default of the participant family that would potentially cause the largest aggregate credit exposure for the covered clearing agency in extreme but plausible market conditions and do so exclusive of assessments for additional guaranty fund contributions or other resources that are not prefunded.

---

42 Id.

43 17 CFR 240.17Ad-22(b)(3).

44 17 CFR 240.17Ad-22(e)(4)(iii) and (iv).

45 17 CFR 240.17Ad-22(e)(4)(i).

The proposed rule change would enhance OCC's stress testing methodology and overall resiliency by providing a more comprehensive suite of Sizing Stress Tests to ensure that OCC maintains an appropriate level of Pre-Funded Financial Resources to cover its credit exposures under scenarios addressing both systemic market risks and idiosyncratic risks. The proposed Idiosyncratic Scenarios would supplement OCC's current set of Sizing Scenarios, which are generally designed to estimate risk exposures arising from more broad-based market and systemic shocks reflected in OCC's Systemic Scenarios, by enabling OCC to appropriately consider the risks of extreme moves in individual or small subsets of securities. OCC therefore believes that the proposed rule change would enhance OCC's overall framework for managing credit risks and reduce the risk that its Pre-Funded Financial Resources would be insufficient in an actual default.

In addition, OCC proposes to enhance its stress testing methodology by using SPX at-the-money implied volatility shocks across different expirations to model price shocks for VIX futures contracts for corresponding expirations as opposed to using a uniform shock for all expirations. The proposed rule change is designed to more accurately measure OCC's credit exposure in its stress scenarios by producing price shocks for VIX futures that would vary based on the expiration as is more realistically observed in the market.

Taken together, OCC believes the proposed changes are reasonably designed so that OCC can measure its credit exposures to its participants and manage such exposures by maintaining sufficient financial resources at a minimum to enable it to cover a wide range of foreseeable stress scenarios that include, but are not limited to, the default of the

participant family that would potentially cause the largest aggregate credit exposure for OCC in extreme but plausible market conditions (and do so exclusive of assessments for additional Clearing Fund contributions or other resources that are not prefunded). For these reasons, OCC believes the proposed changes are consistent with Rule 17Ad-22(b)(3) and Rules 17Ad-22(e)(4)(iii) and (iv).[46]

Furthermore, Rule 17Ad-22(e)(4)[47] generally requires that a 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. OCC believes the proposed changes to its Sufficiency Stress Test monitoring process would improve its overall processes for monitoring and managing credit risk. OCC would revise the Policy to require that STLRM provide written notification to the Office of the CEO whenever a Sufficiency Stress Test margin call imposed on an individual Clearing Member exceeds 75% of the Clearing Member's excess net capital (in addition to the current requirement to provide notification for any margin call exceeding $500 million). The proposed change would allow OCC's senior management to be informed of, and to subsequently monitor, circumstances where a margin call may strain a particular Clearing Member's ability to meet such requirements based on its financial condition or the amount of collateral it has available to pledge when certain pre-identified thresholds have been exceeded. OCC therefore believes the proposed rule change is reasonably designed to help OCC identify, measure, and monitor its credit

---

46 17 CFR 240.17Ad-22(b)(3) and (e)(4)(iii) and (iv).

47 17 CFR 240. 17Ad-22(e)(4).

exposures to participants, particularly those identified through Sufficiency Stress Test margin calls, consistent with Rule 17Ad-22(e)(4).[48]

OCC also believes that the proposed changes to standardize the margin risk component of its Clearing Fund allocation formula by using only STANS-based margin requirements for all Clearing Members are reasonably designed to measure and manage its credit exposures to participants. With respect to the use of Clearing Funds and the requirements of Rule 17Ad-22(e)(4),[49] the Commission has noted that, to the extent that a clearing agency uses guaranty or clearing fund contributions to mutualize risk across participants, the clearing agency generally should value margin and guaranty fund contributions so that the contributions are commensurate to the risks posed by the participants' activity.[50] OCC believes it is appropriate to use the same margin risk measurement for all Clearing Members/accounts when determining Clearing Fund allocations since this allows for a more equitable comparison across all accounts and would result in contribution requirements that are commensurate to the risks posed by each Clearing Member. As a result, OCC believes the proposed changes are reasonably designed to comply with the requirements of Rule 17Ad-22(e)(4).[51]

---

48 Id. OCC also believes that the proposed change to the Policy would: (1) provide for governance arrangements that specify clear and direct lines of responsibility consistent with the requirements of Rule 17Ad-22(e)(2)(v) and (2) contribute to a sound risk management framework for identifying, measuring, monitoring and managing credit and other risks that arise in or are borne by OCC in furtherance of the requirements of Rule 17Ad-22(e)(3)(i). See 17 CFR 240.17Ad-22(e)(2)(v) and 17 CFR 240.17Ad-22(e)(3)(i).

49 Id.

50 See Securities Exchange Act Release No. 78961 (September 28, 2016), 81 FR 70786 (October 13, 2016) (S7-03-14) ("Standards for Covered Clearing Agencies") at 70813.

51 Id.

Rule 17Ad-22(e)(4)(ix)[52] requires that a 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 describing its process to replenish any financial resources it may use following a default or other event in which use of such resources is contemplated. OCC believes the proposed changes to its cooling-off period and associated assessment cap Rules would ensure that the cooling-off period and associated assessment caps are consistently applied for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a) and thereby ensure that OCC can fully access, utilize, and replenish its Clearing Fund resources to address any losses chargeable against the Clearing Fund and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes in a manner consistent with Rule 17Ad-22(e)(4)(ix).[53]

Finally, OCC believes the proposed clarifying, organizational, and streamlining changes to its Rules, Policy, and Methodology Description would improve the clarity and readability of its stress testing and Clearing Fund-related rules and policies are therefore consistent with the Rule 17Ad-22(e)(4)[54] requirement that OCC maintain policies and procedures that are reasonably designed to effectively identify, measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes.

---

52 17 CFR 240. 17Ad-22(e)(4).

53 Id.

54 17 CFR 240. 17Ad-22(e)(4).

(B) Clearing Agency's Statement on Burden on Competition

Section 17A(b)(3)(I) of the Act[55] requires that the rules of a clearing agency not impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act. OCC does not believe the proposed rule change would impose any burden on competition. First, OCC proposes to introduce new Idiosyncratic Scenarios for OCC's inventory of Sizing Stress Tests. OCC does not believe that introducing the Idiosyncratic Scenarios would have an impact on competition. As part of OCC's Sizing Stress Tests, the Idiosyncratic Scenarios would impact all Clearing Members similarly and would not impact individual Clearing Member allocations. In addition, based on analysis performed by OCC, OCC expects that the worst-case Cover 2 Idiosyncratic Scenario shortfall amounts would generally fall below OCC's current 1-in-80 year market event Sizing Scenarios and therefore would not ordinarily have a material impact on the size of the Clearing Fund.[56] Accordingly, OCC does not believe the proposed change would have any impact or burden on competition.

OCC does not believe the proposed changes to its methodology for modeling VIX futures price shocks would have a material impact on competition. The proposed changes are designed to generate more realistic price shocks that better reflect observed market conditions, which could generally result in lower shortfalls in market decline scenarios. OCC expects that the proposed VIX futures changes would have minimal

---

55 15 U.S.C. 78q-1(b)(3)(I).

56 OCC has observed that there were certain circumstances where the Idiosyncratic Scenarios generated the largest shortfalls among OCC's Sizing Scenarios due to position increases relating to corporate action activity in very liquid securities; however, in these circumstances the size of the Clearing Fund would have been established at the minimum requirement of $6.3 billion under Rule 1001(b).

impact on the monthly sizing of the Clearing Fund; however, the proposed change may result in reduced shortfalls in OCC's Sufficiency Scenarios (particularly the historical 1987 market event scenario) and therefore result in less frequent Sufficiency Stress Test margin calls (or margin calls of a lower magnitude). The impact of the proposed change would depend on the composition of a Clearing Member's portfolio at a given time. Generally, Clearing Members with longer tenor positions in VIX future contracts or VIX options will experience a change in the profit and loss on the contracts. Where these positions are driving the shortfall in an account, the account would experience a change in shortfall due to the decrease in the amount of the shock, dependent on the position and direction of the shock for the scenario in question. When shortfalls increase, a large Clearing Member may be more likely to be subject to more frequent and/or larger Sufficiency Stress Test margin calls than under the current model. When shortfalls decrease, Clearing Members may be less likely to breach Sufficiency Thresholds and/or may experience smaller Sufficiency Stress Test margin calls as a result of the change. OCC does not believe that this would present an impact or burden from a competitive standpoint, however. The proposed approach is simply intended to more accurately reflects the risks carried by Clearing Members and align any potential margins calls with this more accurate risk measure.

OCC also proposes to modify its Clearing Fund allocation methodology to standardize the margin risk component of the allocation formula for all members by using only the STANS base amount, plus certain add-on charges, in the Clearing Fund allocation process. Under the proposed change, Clearing Members with segregated futures accounts would typically see their Clearing Fund requirements decrease, while

other Clearing Members' requirements would generally increase to balance out the full allocation of the Clearing Fund. While OCC acknowledges the impact of the proposed change on individual Clearing Member contribution requirements, OCC believes that using the same margin risk measurement for all Clearing Members/accounts when determining Clearing Fund allocations allows for a more equitable comparison across all accounts. As a result, OCC believes the proposed change would promote competition by standardizing its Clearing Fund allocation formula and treating all Clearing Members similarly in the allocation process.

In addition, OCC proposes changes to its cooling-off period and associated assessment cap rules that would ensure that the cooling-off period and associated assessment caps are consistently applied for any proportionate charge resulting from any of the events described in clauses (i) through (vi) of Rule 1006(a). These changes would apply equally to all Clearing Members and therefore OCC does not believe the proposed changes would have any impact or burden on competition.

Finally, OCC proposes to make clarifying changes to its Methodology Description, which are not expected to have any impact on competition. The proposed changes are not intended to materially change OCC's Clearing Fund or stress testing rules but are simply designed to provide more accuracy and clarity in OCC's methodology documentation. As a result, OCC does not believe the proposed changes would have any impact or burden on competition.

For the reasons set forth above, OCC believes that the proposed rule change would not impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act

(C) Clearing Agency's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others

Written comments on the proposed rule change were not and are not intended to be solicited with respect to the proposed rule change and none have been received.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 45 days of the date of publication of this notice in the Federal Register or within such longer period up to 90 days (i) as the Commission may designate if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self- regulatory organization consents, the Commission will:

(A) by order approve or disapprove the proposed rule change, or

(B) institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

Electronic Comments:

- Use the Commission's Internet comment form (http://www.sec.gov/rules/sro.shtml); or
- Send an e-mail to rule-comments@sec.gov. Please include File Number SR-OCC-2019-009 on the subject line.

Paper Comments:

- Send paper comments in triplicate to Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-1090.

All submissions should refer to File Number SR-OCC-2019-009. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet website (http://www.sec.gov/rules/sro.shtml). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street, NE, Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of such filing also will be available for inspection and copying at the principal office of OCC and on OCC's website at https://www.theocc.com/about/publications/bylaws.jsp.

All comments received will be posted without change. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly.

All submissions should refer to File Number SR-OCC-2019-009 and should be submitted on or before [insert date 21 days from publication in the Federal Register].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.[57]

Secretary

---

57 17 CFR 200.30-3(a)(12).

EXHIBIT 5A

OCC Rules

Underlined text indicates new text

~~Strikethrough~~ text indicates deleted text

Chapter X - Clearing Fund Contributions

* * *

RULE 1003 - Clearing Fund Allocation Methodology

(a) *Allocated Contribution.* Unless determined pursuant to Rule 1002(d) or (f), the contribution to the Clearing Fund of each Clearing Member shall be the sum of (x) $500,000 (such amount being the "fixed amount") and a separate amount equal to (y) such Clearing Member's proportionate share of an amount sufficient to cause the amount of the Clearing Fund (after taking into account each Clearing Member's fixed amount) to be equal to the Clearing Fund size determined pursuant to Rule 1001(a) (such amount being the "variable amount"). In no event shall the contribution of a Clearing Member be less than the fixed amount. A Clearing Member's contribution shall at all times be subject to separate and additional adjustments by the Corporation pursuant to Rule 1004. A Clearing Member's proportionate share of the variable amount shall be equal to a weighted average of the Clearing Member's proportionate share of total risk, open interest and volume, in all accounts (including paired X-M accounts) of the Clearing Member, as calculated in accordance with this Rule 1003 and the Corporation's policies and procedures.

(b) A Clearing Member's proportionate share of the variable amount of its Clearing Fund contribution shall be equal to a weighted average of the Clearing Member's proportionate share of total risk, open interest and volume. In calculating this average, total risk shall have a weighting of 70%, open interest shall have a weighting of 15%, and volume shall have a weighting of 15%.

(i) *Total Risk.* For purposes of this Rule 1003, "total risk" means ~~the margin requirement calculated and reported by the Corporation with respect to all accounts of a Clearing Member less the net asset value of the positions in such accounts~~ a risk measure aggregated across all ~~such~~ accounts of a Clearing Member determined using the Corporation's margin methodology and such add-on charges as may be determined pursuant to the Corporation's policies and procedures. A Clearing Member's proportionate share of total risk shall be equal to a fraction, the numerator of which shall be the daily average of the total risk applicable to all accounts of such Clearing Member for the preceding calendar month, and the denominator of which shall be the daily average of the total risk applicable to all accounts of all Clearing Members for the preceding calendar month.

(ii) *Open Interest.* A Clearing Member's proportionate share of open interest shall be equal to a fraction, the numerator of which shall be the daily average number of open positions in cleared contracts plus cleared-contract equivalent units attributable to open stock loan and borrow positions held by such Clearing Member with the Corporation and the denominator of which shall be the daily average number of open positions in cleared contracts (adjusted in the same manner as in the numerator) plus cleared-contract equivalent units attributable to open stock loan and borrow positions held by all Clearing Members during the preceding calendar month. The numerator and denominator shall each include the average daily number

of contracts held in paired X-M accounts.

(iii) *Volume.* A Clearing Member's proportionate share of volume shall be equal to a fraction, the numerator of which shall be the daily average number of all cleared contracts and cleared-contract equivalent units attributable to stock loan and borrow positions cleared by such Clearing Member during a look-back period determined by the Corporation from time to time and the denominator of which shall be the daily average number of all cleared contracts (adjusted in the same manner as in the numerator) and cleared-contract equivalent units attributable to stock loan and borrow positions cleared by all Clearing Members during the preceding month. The numerator and denominator shall each include the average daily number of contracts cleared in paired X-M accounts.

* * *

RULE 1006 - Purpose and Use of Clearing Fund

(a) – (g) *No change*

(h) *Making Good of Charges to the Clearing Fund.*

(A) *No change*

(B) *Cooling-Off Period; Assessments.* Notwithstanding anything in this Rule 1006(h) and except as provided for below, if an amount is paid out of the Clearing Fund as a result of a proportionate charge under Rule 1006(b) resulting from any of the events described in clauses (i) through (~~i~~vi) of Rule 1006(a), then starting on the date of such proportionate charge there shall automatically commence a cooling-off period during which a Clearing Member will not be liable to make good more than an additional 200% of the amount of its then required contribution (for definitional purposes, amounts in excess of a Clearing Member's then required contribution shall be "assessments"). The cooling-off period shall be fifteen consecutive calendar days from the date of such proportionate charge; provided however, that if one or more subsequent events described in clauses (i) through (~~i~~vi) of Rule 1006(a) occur during the fifteen-day period and result in one or more proportionate charges against the Clearing Fund, the cooling-off period shall be extended through (i) the fifteenth calendar day from the date of the most recent proportionate charge resulting from the subsequent event, or (ii) the twentieth calendar day from the date of the initial proportionate charge, whichever is sooner. After the cooling-off period ends, Clearing Members shall not be liable for any deficiency arising from losses or expenses suffered by the Corporation as a result of any event described in clauses (i) through (~~i~~vi) of Rule 1006(h) by 9:00 A.M. Central Time (10:00 A.M. Eastern Time) on the first business day following the day on which the Corporation notifies the Clearing Member of such deficiency.

(C) *No change*

* * *