SECURITIES AND EXCHANGE COMMISSION
(Release No. 34-79212; File No. SR-OCC-2016-013)

November 1, 2016

Self-Regulatory Organizations; The Options Clearing Corporation; Notice of Filing of Proposed Rule Change Concerning The Options Clearing Corporation's Margin Coverage During Times of Increase Volatility

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"),[1] and Rule 19b-4 thereunder,[2] notice is hereby given that on October 18, 2016, The Options Clearing Corporation ("OCC") filed with the Securities and Exchange Commission ("Commission") the proposed rule change as described in Items I, II and III below, which Items have been prepared by OCC. The Commission is publishing this notice to solicit comments on the rule change from interested persons.

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

This proposed rule change by OCC would modify the current process for systematically monitoring market conditions and performing adjustments to its margin coverage when current market volatility increases beyond historically observed levels.

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 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.

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

2 17 CFR 240.19b-4.

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

1. Purpose

OCC's margin methodology, the System for Theoretical Analysis and Numerical Simulations ("STANS"), is OCC's proprietary risk management system that calculates Clearing Members'[3] margin requirements.[4] STANS utilizes large-scale Monte Carlo simulations to forecast price movement and correlations in determining a Clearing Member's margin requirement.[5] The STANS margin requirement is a portfolio calculation at the level of Clearing Member legal entity marginable net positions tier account (tiers can be customer, firm, or market marker) and consists of an estimate of 99% 2-day expected shortfall and an add-on for model risk (the concentration/dependence stress test charge).

The majority of risk factors utilized in the STANS methodology are total returns on individual equity securities. Other risk factors considered include: returns on equity indices; changes in the calibrated coefficients of a model describing the yield curve for U.S. government securities; "returns" on the nearest-to-expiration futures contracts of various kinds; and changes in foreign exchange rates. For the volatility of each risk factor, the Monte Carlo simulations use the greater of: (i) the short-term volatility level predicted by the model; and (ii) an estimate of its longer-run level. In between the monthly re-estimations of all the models, volatilities are automatically re-scaled to the greater of the short-term or the longer-run levels to mitigate pro-

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3 *See* OCC By-Laws Article 1(C)(14).

4 *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/.

5 *See* OCC Rule 601.

cyclicality[6] in the margin levels. (This daily volatility measure is called the "uniform scale factor.") The uniform scale factor is a multiplier used in connection with STANS calculations to account for, among other things, the difference between short-term and long-term volatility forecasts for equities. It is specifically defined as the ratio of long-run volatility (10Y+) over short-run volatility (2Y). It is used to "scale up" the short-run volatility of the securities (e.g., IBM) that are subject to monthly update, in order to estimate long-run volatility. It is also used to capture data gaps between monthly updates.

An approach employed by OCC to mitigate pro-cyclicality within STANS is to estimate market volatility based on current market conditions ("current market estimate") and compare this current market estimate to a long-run estimate of market volatility ("long-run market estimate"). This comparison utilizes certain market benchmarks (or factors), which serve as proxies for the overall volatility of an asset class or group of products. If the long-run market estimate for a factor is found to be greater than the current market estimate, the volatility estimates for all products tied to that factor are adjusted (or scaled) up in a manner proportionate to the relationship between the current market volatility and the long-run market volatility for that factor.

Current STANS includes a single factor ("uniform scale factor"), which serves as the proxy for the equity asset class. This uniform scale factor is calibrated based on changes in the volatility of the Standard & Poor's 500® Index ("SPX") and applied to all "equity-based products" in the manner described above. Currently, the uniform scale factor is the only scale factor used in STANS. The proposed change is intended to enhance the STANS margin calculations by providing for the capability to increase the number of scale factors used within

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6 A quality that is positively correlated with the overall state of the economy is deemed to be pro-cyclical.

STANS in cases where a more appropriate proxy has been identified for a particular asset class or group of products to measure the relationship between current vs. long-run market volatility.

Summary of the Proposed Change

OCC believes that the current approach to scale factors in STANS would be improved by providing the functionality to establish multiple scale factors intended to more accurately measure the relationship between current and long-run market volatility with proxies that correlate more closely to groups of products within an asset class (e.g., Russell 1000 Index and Russell 1000 ETFs), which would enhance the accuracy of the margin requirements in STANS.[7] Furthermore, OCC can improve the resiliency of its risk management framework for non-equity asset classes where open interest cleared by OCC has grown, but where scale factors currently do not exist. By incorporating this process to scale margin coverages when current market volatility exceeds historically heightened levels that have been established to mitigate pro-cyclicality, OCC's margin methodology is able to expeditiously respond to severe changes in market volatility and thus better protect the integrity of our financial markets.

Scale Factor for Equity-Based Products

Current Uniform Scale Factor for Equity-Based Products

The uniform scale factor for the SPX roughly represents the ratio of OCC's estimates of the long-run market volatility to the forecast market volatility determined by most recent 24-

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[7] In this case, accuracy is measured against backtesting results. Pursuant to OCC's Model Risk Management Policy, an accurate 99% value-at-risk model should expect exceedances at a rate of 1% per independent trial. If the exceedance rate is too high, the model is missing key risks; if the exceedance rate is too low, the model is not consistent with the organization's risk appetite. To the extent that the conditional variances of not all relevant risk factors move in lock-step to the conditional variance of SPX, multiple scale factors offers the opportunity to be more accurate.

month daily historical returns.[8] To determine the estimate of current market volatility, OCC relies on daily pricing information for equity securities and exchange-traded funds over a twenty-four month period ending with the last day of the immediately preceding month. To populate this twenty-four month time series, OCC relies on external vendors, with which it maintains redundant relationships for resiliency,[9] to adjust the daily pricing information to account for corporate actions involving these securities. This daily pricing information is received from its vendor(s) after the close of each month, at which time OCC updates its twenty-four month time series adding the new month and dropping the last month of data. This process of updating the time series on a monthly basis is referred to as a "pending" time series due to the batch process used to update the time series. The long-run time series used by the uniform scale factor is updated on a daily basis (i.e., non-pending update) with pricing information for the SPX dating back to January 1, 1946. OCC calculates the uniform scale factor each business day by comparing the current market volatility, using pending price updates to the long-run time series using non-pending, or current, market prices.

The uniform scale factor is applied to all equity products and is used to adjust individual equity current market volatility estimates on a daily basis based on the comparison of the current market volatility and the long-run volatility estimate, which is updated daily. Should it be observed that the current market volatility is less than the long-run volatility, all products tied to the uniform scale factor will be adjusted higher based on the ratio of the long-run volatility

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8 The uniform scale factor has been a part of STANS since it was installed in 2006. *See* Securities Exchange Act Release No. 53322 (February 15, 2006), 71 FR 9403 (February 23, 2006) (SR-OCC-2004-20).

9 Specifically, OCC maintains both a primary and backup data center that receive live price feeds from multiple price vendors. In the event of service disruption OCC is able to transition to an alternate data center and/or pricing vendor, as applicable.

estimate to the current market volatility estimate to account for the observed change in volatility. In addition, the uniform scale factor is also used to account for the fact that the distribution of returns for the SPX has a "fat tail"[10] because the scale factor seeks to match estimates of expected margin shortfalls under the scenarios in STANS for a hypothetical long position in the SPX.

The uniform scale factor resulting from the calculations described above is applied as a multiplier to hypothetical returns on a long portfolio of equities produced during the Monte Carlo market scenarios run within STANS. By "scaling up" hypothetical returns in this way, the uniform scale factor relies on an assumption that more recent behavior of SPX returns will provide an appropriate proxy for the volatility in equity price returns that occur between monthly updates of price data for the pending short-run time series. Accordingly, the uniform scale factor helps OCC set margin requirements that account for this proxy to ensure that Clearing Members maintain margin assets that would be sufficient in light of historical volatility of the SPX.

Proposed Changes to the Uniform Scale Factor for Equity-Based Products

The average longer-run volatility forecast used in OCC's computation of the uniform scale factor currently relies on daily pricing information for component securities of the SPX dating back to January of 1946. This time series predates, however, the 1957 introduction of the SPX. To accurately account for the behavior of SPX returns only since the inception of the index, OCC proposes to adjust the longer-run volatility forecast so that it would rely only on the

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[10] A fat-tailed distribution is a probability distribution that exhibits large skewness or kurtosis. Compared with a standard normal distribution or bell curve, it has a higher probability of occurrence of extreme events.

post-1957 information. OCC believes that this approach would reduce model risk[11] and improve the quality of the data by avoiding the need to make assumptions related to the composition of the index before its actual development.[12]

Proposed New Scale Factors for Equity-Based Products

To more accurately measure the relationship between current and long-run market volatility with proxies that correlate more closely to certain products carried within the equity asset class, OCC proposes to expand the number of scale factors to include: (1) Russell 2000® Index (12/29/1978); (2) Dow Jones Industrial Average Index (9/23/1997); (3) NASDAQ-100 Index (2/4/1985) and (4) S&P 100 Index (1/2/1976).[13] While the SPX scale factor will continue to serve as the default scale factor for most equity products, the index options, futures and ETFs which map to these indexes will be assigned to these scale factors and whose current volatility estimates will be adjusted based on the aforementioned methodology.

Consistent with OCC's existing Margin Policy,[14] OCC will evaluate the performance and use of these scale factors and determine if changes to the mapping of products to scale factors or

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11 OCC defines "model risk" as the potential for adverse consequences of incorrect or misused model outputs and reports.

12 As defined in OCC's Model Risk Management Policy, Model Risk, in the sense of material exposure to the consequences of poor assumptions, is reduced by making models adhere accurately to observed phenomena. In this case, by reducing the role of the uniform scale factor as a proxy between monthly updates of univariate models for risk factors and by allowing certain risk factors to bypass the monthly update process, as described below, OCC believes that this proposed change would reduce model risk.

13 The dates in parentheticals are the dates from which OCC has historical data on the specified index.

14 OCC's Margin Policy describes OCC's approach to prudently managing market and credit exposures presented by its Clearing Members.

the addition of new scale factors are warranted. Prior to any changes being implemented OCC would present its findings to the Enterprise Risk Management Committee and obtain approval to make the recommended enhancements.

Proposed Anti-Procylical [*sic.*] Measure for Equity-Based Scale Factors

In order to mitigate against pro-cyclicality, OCC intends to apply the relevant scale factor to the greater of (i) the estimated variance of the 1-day return scenarios or (ii) the historical variance of the daily return scenarios of a particular instrument, as a floor. OCC believes this floor would mitigate pro-cyclicality in the relevant return scenarios because it would result in a higher estimate of volatility during periods of relatively lower market volatility than if only the estimated variance in (i) above was used.

Scale Factor for Non-Equity-Based Products

Proposed New Scale Factors for Non-Equity-Based Products

In addition to equity products, OCC has observed a growth in the open interest in other asset classes, most notably the volatility asset class, for which an equity-based scale factor would not be applicable based on negligible correlations observed. To be able to monitor and respond to material changes in the volatility of these asset classes while also mitigating pro-cyclicality, OCC proposes to introduce additional scale factors in STANS related to volatility contracts.

For the volatility asset class, different from equities, volatility characteristics are differentiated based on the term of an instrument. As a result, the implementation of the scale factor will be different from the implementation for the equity asset class. Individual products would be linked within STANS to a particular scale factor not only in accordance with price

correlations, but will also consider term structure (i.e., non-equity futures contracts of different maturities).[15]

With regard to the scale factor(s) applicable to implied volatility indexes, the data set would consist of index closing prices for certain volatility indices with a time series that would run from October 1, 2004 (based on available historical data). Applying scale factors to hypothetical returns in this asset class, as is done today for equity-based products, will help ensure that OCC's margin requirements capture shifts in market volatility in these non-equity asset classes, and OCC believes these enhancements would generally promote a more accurate approach to margining within STANS,[16] particularly when markets are volatile.

Proposed Daily Statistical Updates for the Treasury Yield Curve Model

In addition to implementing the scale factors described above, OCC is also proposing to implement processing changes that would update the statistical models for common factors related to Treasury securities on a daily basis. These model changes would allow OCC to monitor and respond to material changes in the volatility of Treasury securities while also mitigating pro-cyclicality without implementing a scale factor specific to Treasury securities. OCC believes that updating its Treasury securities models on a daily basis is a more appropriate way to monitor and respond to material changes in the volatility of Treasury securities while also mitigating pro-cyclicality since the Treasury yield curve model is relatively less complex, with

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[15] OCC would adopt scale factors specific to existing volatility indices, which include volatility indices on the S&P 500 (VIX and VXST), Russell 2000 (RVX), gold (GVZ), oil (OVX), emerging markets (VXEEM), Brazil (VXEWZ), Nasdaq 100 (VXN) and 10-year Treasury Notes (VXTYN).

[16] *See* notes. 4 & 8, *supra*.

only three factors, and the structure of the Treasuries securities model does not lend itself to a returns-based scale factor (as is used with equity and volatility derivatives, as described above).

Specifically, OCC is proposing to enhance its existing yield curve model that OCC uses to project U.S. Treasury security returns, which is updated monthly. The model contains underlying data set and time series information for Treasury securities, which run from February 4, 2008 (based on available historical data) and, after implementing the proposed enhancements, the model would be updated on a daily basis as new data and time series information becomes available. The proposed enhancements would promote a more accurate approach to margining within STANS, as it relates to Treasury securities, particularly when markets are volatile because the daily statistical updates would prevent the model from becoming stale between monthly updates.

Impact Analysis and Outreach

Based on simulation testing for the period from January 14, 2015, to March 6, 2015, risk margins (i.e., expected shortfall plus the concentration/dependence add-on) would have been 5.2% higher in aggregate as a consequence of these changes. This is mostly due to higher coverage for the Russell 2000 Index and index ETF products under the new methodology. The absolute variation in risk margins relative to production was greater than 5% of Clearing Member capital for about 11% of Clearing Member-days over the simulation period.

In order to inform Clearing Members of the proposed change, OCC provided a general update at a recent OCC Roundtable[17] meeting and would continue to provide updates at

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[17] The OCC Roundtable was established to bring Clearing Members, exchanges and OCC together to discuss industry and operational issues. It is comprised of representatives of the senior OCC staff, participant exchanges and Clearing Members, representing the diversity of OCC's membership in industry segments, OCC-cleared volume, business type, operational structure and geography.

Roundtable meetings on a quarterly basis going forward. In addition, OCC would publish an Information Memorandum to all Clearing Members describing the proposed change and will provide additional periodic Information Memoranda updates prior to the implementation date. OCC would also provide at least thirty days prior notice to Clearing Members before implementing the change. Additionally, OCC would perform targeted and direct outreach with Clearing Members that would be most impacted by the proposed change and OCC would work closely with such Clearing Members to coordinate the implementation and associated funding for such Clearing Members resulting from the proposed change.[18] Finally, OCC would discuss the proposed change with its cross-margin clearing house partners to ensure they are aware of the proposed change.[19]

2. Statutory Basis

OCC believes that the proposed rule changes are consistent with Section 17A(b)(3)(F) of the Act,[20] because they would assure the safeguarding of securities and funds in the custody and control of OCC by enhancing the current approach for monitoring market conditions and performing adjustments to OCC's margin coverage on both equity and non-equity based derivatives products for which OCC provides clearance and settlement services when current volatility increase beyond historically observed levels. OCC uses the margin it collects from a defaulting Clearing Member to protect other Clearing Members from loss as a result of the

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18 Specifically, OCC will discuss with those Clearing Members how they plan to satisfy any increase in their margin requirements associated with the proposed change.

19 Cross-margin accounts are not uniquely affected by the proposed change and would be affected by the proposed change in the same manner as any other type of OCC account.

20 15 U.S.C. 78q-1(b)(3)(F).

defaulting Clearing Member. By more accurately computing Clearing Member margin requirements OCC can assure the safeguarding of securities and funds in its custody and control.

The proposed model changes described above would enhance the manner in which OCC computes margin requirements for Clearing Members. Specifically, the proposed changes to the Uniform Scale Factor for equity-based products to rely only on post-1957 information would reduce model risk and improve the quality of data by avoiding unnecessary assumptions related to the composition of the SPX before its inception. The proposed four new scale factors for equity-based products would more accurately measure the relationship between current and long-run market volatility with proxies that are correlated more closely to certain products within the equity asset class. The proposed introduction of new scale factors for non-equity based products, for both the volatility assets class and the implied volatility indexes will promote a more accurate approach to margining STANS, when markets experience shifts in volatility. The proposed daily statistical updates for the Treasury yield curve model would allow OCC to monitor and response to material changes in the volatility of Treasury securities while also mitigating pro-cyclicality. Taken together, the changes to the uniform scale factor, the addition of new equity-based scale factors, the addition of non-equity based scale factors and introduction of daily statistical updates for the Treasury yield curve model cause STANS to more accurately compute Clearing Member margin requirements to reflect the risk of Clearing Member portfolios thereby reducing the risk that Clearing Member margin assets would be insufficient should OCC need to use such assets to close-out the positions of a defaulted Clearing Member. Further, the proposed rule changes would make it less likely that the default of a Clearing Member would stress the financial resources available to OCC, which include mutualized resource funds deposited by non-defaulting Clearing Members as Clearing Fund.

OCC believes that the proposed rule changes are also consistent with Rule 17Ad-22(b)(2)[21] because they would limit OCC's credit exposures to its participants under normal market conditions and use risk-based models and parameters to set OCC's margin requirements. As described above, the risk-based model and parameter changes to the uniform scale factor, the addition of new equity-based scale factors, the addition of non-equity based scale factors and introduction of daily statistical updates for the Treasury yield curve model cause STANS to more accurately compute Clearing Member margin requirements. By more accurately computing Clearing Member margin requirements, OCC reduces its credit exposure to its Clearing Members.

The proposed rule changes are not inconsistent with the existing rules of OCC, including any other rules proposed to be amended.

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

OCC does not believe that the proposed rule change would impact or impose any burden on competition.[22] The proposed rule change would allow OCC to adjust Clearing Member margin requirements when current volatility increases beyond historical levels. While as a result of the proposed rule change Clearing Members may experience daily margin fluctuations of up to ten percent, such fluctuations are equal in amount to fluctuations Clearing Members typically experience as a result of changes in market price, volatility or interest rates. Therefore, OCC believes that the proposed rule change would not unfairly inhibit access to OCC's services or disadvantage or favor any particular user in relationship to another user. In addition, the

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21 17 CFR 240.17Ad-22(b)(2).

22 15 U.S.C. 78q-1(b)(3)(I).

proposed rule change would be applied uniformly to all Clearing Members in establishing their margin requirements.

For the foregoing reasons, OCC believes that the proposed rule change is in the public interest, would be consistent with the requirements of the Act applicable to clearing agencies, and would not impact or impose a burden on competition.

(C) Clearing Agency'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

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-2016-013 on the subject line.

Paper Comments:

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

All submissions should refer to File Number SR-OCC-2016-013. 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 http://www.theocc.com/components/docs/legal/rules_and_bylaws/sr_occ_16_013.pdf.

All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly.

All submissions should refer to File Number SR-OCC-2016-013 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.[23]

Brent J. Fields
Secretary

[23] 17 CFR 200.30-3(a)(12).