

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34-80143; File No. SR-OCC-2017-801)

March 2, 2017

Self-Regulatory Organizations; The Options Clearing Corporation; Notice of No Objection to Advance Notice Filing Concerning The Options Clearing Corporation's Margin Coverage During Times of Increased Volatility

The Options Clearing Corporation ("OCC") filed on January 4, 2017 with the Securities and Exchange Commission ("Commission") advance notice SR-OCC-2017-801 ("Advance Notice") pursuant to Section 806(e)(1) of the Payment, Clearing, and Settlement Supervision Act of 2010 ("Payment, Clearing and Settlement Supervision Act")<sup>1</sup> and Rule 19b-4(n)(1)(i)<sup>2</sup> under the Securities Exchange Act of 1934 ("Exchange Act") to modify its process for systematically monitoring market conditions and performing adjustments to its margin coverage when market volatility increases beyond historically observed levels. The Advance Notice was published for comment in the Federal Register on February 7, 2017.<sup>3</sup> The Commission has not received any comments on the Advance Notice to date. This publication serves as notice of no objection to the Advance Notice.

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<sup>1</sup> 12 U.S.C. 5465(e)(1). The Financial Stability Oversight Council designated OCC a systemically important financial market utility on July 18, 2012. See Financial Stability Oversight Council 2012 Annual Report, Appendix A, <http://www.treasury.gov/initiatives/fsoc/Documents/2012%20Annual%20Report.pdf>. Therefore, OCC is required to comply with the Payment, Clearing and Settlement Supervision Act and file advance notices with the Commission.

<sup>2</sup> 17 CFR 240.19b-4(n)(1)(i).

<sup>3</sup> See Securities Exchange Act Release No. 79915 (February 1, 2017), 82 FR 9613 (February 7, 2017) (File No. SR-OCC-2017-801). OCC also filed a proposed rule change with the Commission pursuant to Section 19(b)(1) of the Exchange Act and Rule 19b-4 thereunder, seeking approval of changes to its rules necessary to implement the Advance Notice. 15 U.S.C. 78s(b)(1) and 17 CFR 240.19b-4, respectively. This proposed rule change was published in the Federal Register on January 25, 2017. Securities Exchange Act Release No. 79818 (January 18, 2017), 82 FR 8455 (January 25, 2017) (SR-OCC-2017-001).

## I. Background

OCC protects itself against potential losses that could result from the default of a clearing member by requiring margin to be posted in connection with each member's positions. The amount of margin calculated and collected from OCC's clearing members, along with mutualized clearing-fund resources, is intended to make available to OCC sufficient financial resources for the orderly transfer or liquidation of a defaulting clearing member's positions. OCC's proprietary risk management system, the System for Theoretical Analysis and Numerical Simulations ("STANS"), calculates each clearing member's margin requirement by utilizing Monte Carlo simulations to forecast price movements related to the positions in each clearing member's portfolio. The STANS margin requirement is intended to be sufficient to collateralize the member's losses across its portfolio over a two-day period, under normal market conditions.

To determine margin requirements, STANS utilizes time-series data, including pricing data on assets underlying the options contracts that OCC clears, and performs calculations related to, among other things, the volatilities of these underliers. The margin amount collected from each clearing member also accounts for expected changes in the value of collateral posted in connection with that member's portfolio.

One of the primary risk drivers in the STANS methodology relates to the volatility of individual equity securities, which is derived from pricing data imported monthly into STANS. Between data feeds, the STANS margin methodology relies on a process that adjusts the individual volatility measures of equity-based option underliers (e.g., GE or IBM) by a multiplier derived from the volatility of the Standard & Poor's® 500 index ("SPX"). OCC refers to that multiplier as the uniform scale factor. To account for intra-month changes in volatility, the uniform scale factor adjusts individual volatilities of applicable underliers by a factor tied to the

relationship between the short-term and long term volatility of the SPX. Specifically, the uniform scale factor is used as a proxy to “scale up” volatilities of equity-based option underliers<sup>4</sup> when near-term volatility estimates fall below a certain ratio relative to long-term average volatility, based on the volatility of the SPX. OCC asserts that, by applying a scale factor in this way, margin requirements better account for intra-month volatility risks for individual equity-based option underliers and thereby better ensure that clearing members maintain sufficient margin assets in connection with option positions based upon those underliers.

## II. Description of the Advance Notice

OCC proposes a number of enhancements to its STANS margin methodology to more accurately compute its clearing member margin requirements. Specifically, OCC proposes the following: (1) to change the length of time-series data used to calculate the uniform scale factor; (2) to introduce new equity index-based scale factors; (3) to anchor individual risk factor volatilities to longer-term averages; and (4) to implement daily data updates of risk factors in OCC’s statistical models used to value U.S. Treasury securities for collateral and margin purposes. Each proposed change is discussed in greater detail below.

First, OCC proposes to change the time-series data period and thereby the data set used to calculate the uniform scale factor. One aspect of the uniform scale factor calculation relies on pricing information, or time-series data, relating to the individual components of the S&P 500 index dating back to 1946, which pre-dates the 1957 introduction of SPX. Because the time-series data pre-dates the SPX’s publication, OCC’s current practice is to supplement the

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<sup>4</sup> The uniform scale factor applies to the volatility measures for single-name and index underliers. It does not apply to exchange-traded funds, futures, or volatility-based underliers. For the latter types of options, STANS uses a constant volatility measure calculated from monthly data feeds.

published SPX data with additional pricing information that relies upon assumptions about what theoretically could have been the index's composition prior to 1957. OCC proposes to discontinue that practice going forward, and instead rely on post-1957 information only. According to OCC, this change would improve the quality of data used in the uniform scale factor calculation.

Second, OCC proposes to introduce four new scale factors for equity-based options. As noted above, the uniform scale factor is derived from SPX pricing information and currently serves as OCC's sole volatility proxy applicable to equity-based option underliers. According to OCC, the new scale factors are based upon indices whose volatility characteristics more closely correlate with the volatility characteristics of the underliers to which they will be applied; thus the new scale factors will serve as more appropriate volatility proxies for those products. More specifically, OCC proposes to introduce new scale factors based upon the following indices: (1) the Russell 2000® Index (12/29/1978); (2) the Dow Jones Industrial Average Index (9/23/1997); (3) the NASDAQ-100 Index (2/4/1985); and (4) the S&P 100 Index (1/2/1976).<sup>5</sup> Although the SPX-based uniform scale factor will continue to serve as the default scale factor for most equity-based products, the new scale factors will apply to a number of index options and options on exchange-traded funds and exchange-traded notes that more closely correlate to the indices used in the proposed scale factor calculations.

Third, OCC proposes to anchor risk factor volatilities to longer-term trends by applying either the uniform scale factor or the applicable proposed new scale factor, to the greater of two volatility estimates: (i) an observed, historical average; or (ii) a forecasted volatility measure. This proposal would modify the current practice of applying the uniform scale factor solely to

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<sup>5</sup> The dates in parentheses are the dates from which OCC has historical data on the specified index.

the forecasted volatility measure for applicable underliers. OCC states that in those cases where observed, historical average volatilities exceed forecasted volatility measures, OCC's revised methodology would better ensure that short-term or temporary decreases in forecasted volatility do not result in significant margin reductions, thereby improving risk management.

Finally, OCC proposes to implement daily updates to risk factors used to construct the U.S. Treasury yield curve and value U.S. Treasury securities for collateral and margin purposes. According to OCC, daily updates to the U.S. Treasury yield curve would better ensure that the STANS margin calculations accurately reflect the current state of the U.S. Treasury market, particularly during periods of heightened volatility, which would lead to more accurate margin calculations.

### III. Discussion and Commission Findings

Although the Payment, Clearing and Settlement Supervision Act does not specify a standard of review for an advance notice, the stated purpose of the Payment, Clearing and Settlement Supervision Act is instructive.<sup>6</sup> The stated purpose of the Payment, Clearing and Settlement Supervision Act is to mitigate systemic risk in the financial system and promote financial stability by, among other things, promoting uniform risk management standards for systemically important financial market utilities and strengthening the liquidity of systemically important financial market utilities.<sup>7</sup>

Section 805(a)(2) of the Payment, Clearing and Settlement Supervision Act<sup>8</sup> authorizes the Commission to prescribe risk management standards for the payment, clearing, and

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<sup>6</sup> See 12 U.S.C. 5461(b).

<sup>7</sup> Id.

<sup>8</sup> 12 U.S.C. 5464(a)(2).

settlement activities of designated clearing entities and financial institutions engaged in designated activities for which it is the supervisory agency or the appropriate financial regulator. Section 805(b) of the Payment, Clearing and Settlement Supervision Act<sup>9</sup> states that the objectives and principles for the risk management standards prescribed under Section 805(a) shall be to:

- promote robust risk management;
- promote safety and soundness;
- reduce systemic risks; and
- support the stability of the broader financial system.

The Commission has adopted risk management standards under Section 805(a)(2) of the Payment, Clearing and Settlement Supervision Act (“Clearing Agency Standards”) and the Exchange Act.<sup>10</sup> The Clearing Agency Standards became effective on January 2, 2013, and require registered clearing agencies to establish, implement, maintain, and enforce written policies and procedures that are reasonably designed to meet certain minimum requirements for their operations and risk management practices on an ongoing basis. As such, it is appropriate for the Commission to review advance notices against these Clearing Agency Standards, and the objectives and principles of these risk management standards as described in Section 805(b) of the Payment, Clearing and Settlement Supervision Act.<sup>11</sup>

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<sup>9</sup> 12 U.S.C. 5464(b).

<sup>10</sup> 17 CFR 240.17Ad-22. See Securities Exchange Act Release No. 68080 (October 22, 2012), 77 FR 66220 (November 2, 2012) (S7-08-11).

<sup>11</sup> 12 U.S.C. 5464(b).

The Commission finds the proposed change is consistent with the objectives and principles described in Section 805(b) of the Payment, Clearing and Settlement Supervision Act, as described below.<sup>12</sup>

Consistency with Section 805(b) of the Payment, Clearing and Settlement Supervision Act

The Commission finds that OCC's proposal is consistent with promoting robust risk management, promoting safety and soundness, reducing systemic risk, and supporting the stability of the broader financial system, and is therefore consistent with the objectives and principles described in Section 805(b) of the Payment, Clearing and Settlement Supervision Act.<sup>13</sup>

First, the Commission finds that the proposed change to the SPX time-series data period used in connection with the uniform scale factor is consistent with promoting robust risk management. As described above, OCC is changing the manner in which it calculates the uniform scale factor by limiting SPX time-series data to only those dates subsequent to the introduction of the SPX in 1957. According to OCC, by relying on the published index, instead of assumptions about the SPX's constituents prior to its publication, the proposed change would improve the quality of data used in the uniform scale factor calculation, which is critical to managing certain intra-month volatility risks through OCC's risk management system, STANS. The Commission finds that OCC's proposed reliance on published index data throughout the time-series data period rather than assumptions to calculate the uniform scale factor is an appropriate improvement to the process for performing intra-month volatility adjustments in

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<sup>12</sup> Id.

<sup>13</sup> 12 U.S.C. 5464(b).

STANS. The Commission therefore finds the proposed change is consistent with the objective of promoting robust risk management.

Second, the Commission finds that OCC's proposed change to introduce four new scale factors for exchange-traded funds and other equity-based option underliers that correlate more closely with the indices used in the proposed scale factor calculations is consistent with promoting robust risk management. According to OCC, the proposed change would more accurately approximate intra-month volatility risks in STANS calculations for applicable equity-based options products and thereby more accurately reflect the risks associated with such underliers in margin calculations. Correspondingly, margin calculations should more closely reflect potential losses in clearing members' portfolios containing products to which the new scale factors would be applied, in furtherance of promoting robust risk management.

Third, the Commission finds that the proposed change to apply the uniform scale factor and each proposed scale factor to the greater of the historical and forecasted volatility measure for applicable instruments is consistent with promoting robust risk management. According to OCC, the proposed change to anchor volatilities in observed, historical averages mitigates procyclical reductions in margin requirements.<sup>14</sup> In particular, the proposed methodology is intended to protect against circumstances in which a decrease in the forecasted volatilities of option underliers would result in commensurate reductions in associated margin requirements, though such forecasts may be inconsistent with historical average volatilities based on longer-

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<sup>14</sup> The term "procyclicality" as it relates to margin requirements in this context is intended to describe positive correlation between margin requirements associated with an options portfolio and the volatilities of individual constituents in that portfolio. For a more general discussion of procyclicality and initial margin requirements, please see David Murphy et al., Staff Working Paper No. 597: A comparative analysis of tools to limit the procyclicality of initial margin requirements, Bank of England (April 2016), <http://www.bankofengland.co.uk/research/Documents/workingpapers/2016/swp597.pdf>.

term, observed pricing behaviors. The Commission finds that by mitigating procyclical decreases in margin requirements, OCC's proposal is consistent with promoting robust risk management.

Lastly, the Commission finds that the proposed change to incorporate daily updates into time-series data used to construct the U.S. Treasury yield curve for collateral and margin purposes is consistent with promoting robust risk management. According to OCC, the proposed change is designed to better ensure that the STANS margin calculations accurately reflect the value of U.S. Treasuries posted as collateral, especially during periods of heightened volatility. This, in turn, would better ensure that clearing members post sufficient collateral in support of their options portfolios and remain within OCC's risk tolerance. More accurate valuation of U.S. Treasuries for collateral and margin purposes should improve OCC's ability to monitor and manage its risks and therefore is consistent with promoting robust risk management.

For the reasons stated above, the Commission finds that OCC's proposal promotes robust risk management through improvements to the data, scale factors, and methodology used in STANS margin calculations. The Commission also finds that the proposal thereby promotes the safety and soundness of OCC and its members by better capturing volatility risks in margin requirements, which, in turn, should serve to reduce systemic risks and support the stability of the broader financial system. Accordingly, the Commission finds that the proposal is consistent with the stated objectives and principles of Section 805(b) of the Payment, Clearing and Settlement Supervision Act.<sup>15</sup>

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<sup>15</sup> 12 U.S.C. 5464(b).

Consistency with Rules 17Ad-22(b)(1) and (b)(2) under the Exchange Act

The Commission finds that OCC's proposal is consistent with the Clearing Agency Standards, specifically Rules 17Ad-22(b)(1) and (b)(2) under the Exchange Act.<sup>16</sup> Rule 17Ad-22(b)(1) under the Exchange Act requires OCC to establish, implement, maintain, and enforce written policies and procedures reasonably designed to, among other things, limit its exposures to potential losses from defaults by its participants under normal market conditions so that the operations of the clearing agency would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.<sup>17</sup> Rule 17Ad-22(b)(2) under the Exchange Act requires OCC to establish, implement, maintain, and enforce written policies and procedures reasonably designed to, among other things, use margin requirements to limit its credit exposures to participants under normal market conditions and use risk-based models and parameters to set such margin requirements.<sup>18</sup>

The Commission finds that OCC's proposal is consistent with Rules 17Ad-22(b)(1) and (b)(2) under the Exchange Act. The proposal would better enable OCC to limit its potential losses from clearing-member defaults under normal market conditions by improving the data, scale factors, and methodology used to derive certain volatility and other estimates for purposes of margin calculations. By improving these estimates, the STANS margin requirements would better ensure that OCC's members post sufficient collateral in connection with their options positions, thereby protecting OCC against the potential losses from a clearing-member default. Furthermore, by limiting OCC's exposure to such losses, the proposal better ensures that OCC

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<sup>16</sup> 17 CFR 240.17Ad-22(b)(1) and (b)(2). For purposes of these provisions, OCC is a registered clearing agency that performs central counterparty services.

<sup>17</sup> 17 CFR 240.17Ad-22(b)(1).

<sup>18</sup> 17 CFR 240.17Ad-22(b)(2).

would continue operations without disruption and that non-defaulting clearing members would not be exposed to losses they cannot anticipate or control.

The proposal also would improve the risk-based models and parameters that OCC uses to set margin requirements and limit its credit exposures to clearing members under normal market conditions. STANS, as discussed above, is a risk-based, forecasting tool that OCC currently uses to calculate margin requirements that would be sufficient to collateralize each clearing member's losses over a two-day period under normal market conditions. The proposal incrementally enhances STANS by improving the data, scale factors, and methodology used to derive certain volatility and other estimates relevant to risk-based margin calculations. The proposal would improve the quality of data used to estimate risk drivers in the STANS margin calculations, for example, by relying solely on published index data throughout the uniform scale factor time-series data period. In addition, the four new scale factors would more accurately reflect intra-month volatility risks associated with applicable option underliers in the STANS margin calculations. The proposal also would better ensure that the STANS margin requirements remain anchored to historical average volatilities, and would thereby mitigate pro-cyclical reductions in margin requirements, by applying the uniform scale factor and each proposed scale factor to the greater of an observed, historical average and a forecasted volatility measure. Finally, incorporating daily updates into time-series data used to construct the U.S. Treasury yield curve would improve valuation of U.S. Treasury collateral and thereby the accuracy of STANS margin calculations, because margin requirements account for expected changes in the value of posted U.S. Treasury collateral.

For the reasons stated above, the Commission finds that OCC's proposal is consistent with the Clearing Agency Standards, specifically Rules 17Ad-22(b)(1) and (b)(2) under the Exchange Act.

IV. Conclusion

IT IS THEREFORE NOTICED, pursuant to Section 806(e)(1)(G) of the Payment, Clearing and Settlement Supervision Act,<sup>19</sup> that the Commission DOES NOT OBJECT to Advance Notice (SR-OCC-2017-801) and that OCC is AUTHORIZED to implement the proposed change.

By the Commission.

Eduardo A. Aleman  
Assistant Secretary

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<sup>19</sup> 12 U.S.C. 5465(e)(1)(G).