SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–83305; File No. SR–OCC–2017–811]

Self-Regulatory Organizations; The Options Clearing Corporation; Notice of No Objection To Advance Notice Filing Concerning The Options Clearing Corporation's Margin Methodology

May 23, 2018.

I. Introduction

On November 13, 2017, The Options Clearing Corporation (''OCC'') filed with the Securities and Exchange Commission (''Commission'') advance notice SR–OCC–2017–811 (''Advance Notice'') pursuant to Section 806(e)(1) of the Payment, Clearing, and Settlement Supervision Act of 2010 (''Payment Supervision Act'') [1] and Rule 19b–4(n)(1)(i) under the Securities Exchange Act of 1934 (''Exchange Act'') [2] to propose several enhancements to OCC's margin methodology, the System for Theoretical Analysis and Numerical Simulations (''STANS''), OCC's proprietary risk management system that calculates clearing member margin requirements.[3] The proposed changes would modify OCC's margin methodology to: (1) Obtain daily price data for equity products (including daily corporate action-adjusted returns of equities where prices and thus returns of securities are adjusted for any dividends issued, stock splits, etc.) for use in the daily estimation of econometric model parameters; (2) enhance its econometric model for updating statistical parameters (*e.g.,* parameters concerning correlations or volatility) for all risk factors that reflect the most recent data obtained; (3) improve the sensitivity and stability of correlation estimates across risk factors by using de-volatized [4] returns (but using a 500 day look back period); and (4) improve OCC's methodology related to the treatment of defaulting securities [5] that would result in stable and realistic risk estimates for such securities.[6] The Advance Notice was published for comment in the **Federal Register** on December 27, 2017.[7] On January 11, 2018, the Commission requested OCC provide it with additional information regarding the Advance Notice.[8] OCC responded to this request for information on January 23, 2018.[9] On March 22, 2018, the Commission determined that the Advance Notice raises complex issues because OCC proposes to make detailed, substantial, and numerous changes to its margin methodology.[10] As such, the Commission extended review period of the Advance Notice until May 23, 2018.[11] As of May 23, 2018, the Commission has received one comment letter on the proposal contained in the Advance Notice.[12] This publication serves as notice of no objection to the Advance Notice.

II. Background [13]

OCC's Current Margin Methodology

OCC's margin methodology, the System for Theoretical Analysis and Numerical Simulations (''STANS''), calculates clearing member margin requirements.[14] STANS utilizes large-scale Monte Carlo simulations to forecast price and volatility movements in determining a clearing member's margin requirement.[15] The STANS margin requirement is calculated at the portfolio level of clearing member accounts with positions in marginable securities and consists of an estimate of a 99% expected shortfall [16] over a two-day time horizon and an add-on margin charge for model risk (the concentration/dependence stress test charge).[17] The STANS methodology is used to measure the exposure of portfolios of options and futures cleared by OCC and cash instruments in margin collateral.[18]

A ''risk factor'' within OCC's margin system may be defined as a product or attribute whose historical data are used to estimate and simulate the risk for an associated product.[19] 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 indexes; returns on implied volatility risk factors that are a set of nine chosen volatility pivots per product; changes in foreign exchange rates; securities underlying equity-based products; and changes in model parameters that sufficiently capture the model dynamics from a larger set of data.[20]

Under OCC's current margin methodology, OCC obtains monthly price data for most of its equity-based products from a third-party vendor.[21] This data arrive around the second week of every month in arrears and require approximately four weeks for OCC to process prior to installing into OCC's margin system.[22] As a result, correlations and statistical parameters for risk factors at any point in time represent stale data and therefore may not be representative of the most recent market data.[23] In the absence of daily updates, OCC employs an approach

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

[2] 17 CFR 240.19b–4(n)(1)(i).

[3] *See* Notice *infra* note 7, at 82 FR 61355.

[4] De-volatization is a process of normalizing historical data with the associated volatility thus facilitating comparison between different sets of data.

[5] Within the context of OCC's margin system, securities that do not have enough historical data for calibration are classified as ''defaulting securities.'' *See* Notice, 82 FR at 61355, note 15.

[6] *See* Notice *infra* note 7, at 82 FR 61354.

[7] Exchange Act Release No. 82371 (Dec. 20, 2017), 82 FR 61354 (Dec. 27, 2017) (SR–OCC–2017–811) (''Notice''). On November 13, 2017, OCC also filed a related proposed rule change (SR–OCC–2017–022) with the Commission pursuant to Exchange Act Section 19(b)(1) and Rule 19b-4 thereunder, seeking approval of changes to its rules necessary to implement the proposal contained in the Advance Notice (''Proposed Rule Change''). 15 U.S.C. 78s(b)(1) and 17 CFR 240.19b–4, respectively. The Proposed Rule Change was published in the **Federal Register** on December 4, 2017. Exchange Act Release No. 82161 (Nov. 28, 2017), 82 FR 57306 (Dec. 4, 2017) (SR–OCC–2017–022).

[8] *See* Memorandum from Office of Clearance and Settlement, Division of Trading and Markets, dated January 12, 2018, *available at https://www.sec.gov/comments/sr-occ-2017-811/occ2017811.htm.*

[9] *See* Memorandum from Office of Clearance and Settlement, Division of Trading and Markets, dated March 6, 2018, *available at https://www.sec.gov/comments/sr-occ-2017-811/occ2017811.htm.*

[10] *See* Extension Notice, 82 FR at 13315.

[11] *Id.*

[12] *See* letter from Michael Kitlas, dated November 28, 2017, to Eduardo A. Aleman, Assistant Secretary, Commission, *available at https://www.sec.gov/comments/sr-occ-2017-022/occ2017022.htm* (''Kitlas Letter''). After reviewing the Kitlas Letter, the Commission believes that it is nonresponsive to the Advance Notice and therefore outside the scope of the proposal.

Since the proposal contained in the Advance Notice was also filed as a proposed rule change, all public comments received on the proposal are considered regardless of whether the comments are submitted on the Proposed Rule Change or the Advance Notice.

[13] The description of the background of the proposal is substantially excerpted from the Notice. *See* Notice, 82 FR at 61355.

[14] *See* Exchange Act Release No. 53322 (Feb. 15, 2006), 71 FR 9403 (Feb. 23, 2006) (File No. SR–OCC–2004–20).

[15] *See* OCC Rule 601; *see also* Notice, 82 FR at 61355.

[16] *See* Notice, 82 FR at 61355.

The expected shortfall component is established as the estimated average of potential losses higher than the 99% value at risk threshold. *See* Notice, 82 FR at 61355, note 8.

[17] *See* Notice, 82 FR at 61355. A detailed description of the STANS methodology is *available at http://optionsclearing.com/risk-management/margins/. See* Notice, 82 FR at 61355, note 9.

[18] *See* Notice, 82 FR at 61355.

[19] *Id.*

[20] *Id.*

[21] *Id.*

[22] *Id.*

[23] *Id.*

where one or more identified market proxies (or ''scale-factors'') are used to incorporate day-to-day market volatility across all associated asset classes throughout.[24] The scale-factor approach, however, assumes a perfect correlation of the volatilities between the security and its scale-factor, which gives little room to capture the idiosyncratic risk of a given security and is different from the broad market risk represented by the scale-factor.[25]

In addition, OCC imposes a floor on volatility estimates for its equity-based products using a 500-day look back period.[26] OCC believes that using monthly price data, coupled with the dependency of margins on scale-factors and the volatility floor can result in imprecise changes in margins charged to clearing members, specifically across periods of heavy volatility when the correlation between the risk factor and a scale-factor fluctuate.[27]

OCC's current methodology for estimating covariance and correlations between risk factors relies on the same monthly data described above, resulting in a similar lag time between updates.[28] In addition, correlation estimates are based off historical returns series, with estimates between a pair of risk factors being highly sensitive to the volatility of either risk factor in the chosen pair.[29] Accordingly, OCC believes that the current approach results in potentially less stable correlation estimates that may not be representative of current market conditions.[30]

Finally, under OCC's existing margin methodology, theoretical price scenarios for ''defaulting securities'' [31] are simulated using uncorrelated return scenarios with an average zero return and a pre-specified volatility called ''default variance.'' [32] The default variance is estimated as the average of the top 25 percent quantile of the conditional variances of all securities.[33] As a result, OCC believes that these default estimates may be impacted by extremely illiquid securities with discontinuous data.[34] In addition, OCC believes that the default variance (and the associated scale-factors used to scale up volatility) is also subject to sudden jumps across successive months because it is derived from monthly data updates, as opposed to daily updates, which are prone to wider fluctuations and are subject to adjustments using scale-factors.[35]

III. Description of the Proposal in the Advance Notice [36]

The Advance Notice proposes changes to OCC's margin methodology, STANS. More specifically, OCC proposes to: (1) Obtain daily price data for equity products (including daily corporate action-adjusted returns of equities where price and thus returns of securities are adjusted for any dividends issued, stock splits, etc.) for use in the daily estimation of econometric model parameters; (2) enhance its econometric model for updating statistical parameters (*e.g.,* parameters concerning correlations or volatility) for all risk factors that reflect the most recent data obtained; (3) improve the sensitivity and stability of correlation estimates across risk factors by using de-volatized [37] returns (but using a 500 day look back period); and (4) improve OCC's methodology related to the treatment of defaulting securities [38] that would result in stable and realistic risk estimates for such securities.

As a general matter, OCC believes that introducing daily updates for price data would result in more accurate margin requirements that are based off of the most recent market data. OCC also believes that the other model enhancements would, among other things, improve OCC's approach to estimating covariance and correlations between risk factors in an effort to achieve more accurate and timely correlation estimations.[39] OCC further represents that the proposed changes would improve OCC's methodology related to the treatment of defaulting securities by reducing the impact that illiquid securities with discontinuous data have on default variance estimates. Each of these proposals is discussed in more detail below.

1. Daily Updates of Price Data

OCC proposes to introduce daily updates for price data for equity products, including daily corporate action-adjusted returns of equities, Exchange Traded Funds (''ETFs''), Exchange Traded Notes (''ETNs'') and certain indexes.[40] OCC believes that the proposed change would help ensure that OCC's margin methodology is reliant on data that is more representative of current market conditions, thereby resulting in more accurate and responsive margin requirements.[41] In addition, OCC believes that the introduction of daily price updates would enable OCC's margin methodology to better capture both market and idiosyncratic risk by allowing for daily updates to the parameters associated with the econometric model (discussed below) that captures the risk associated with a particular product, and therefore help ensure that OCC's margin requirements are based on more current market conditions.[42] As a result, OCC would also reduce its reliance on the use of scale-factors to incorporate day-to-day market volatility, which OCC believes give little room to capture the idiosyncratic risk of a given security and is different from the broad market risk represented by the scale-factor.[43]

2. Proposed Enhancements to the Econometric Model

In addition to introducing daily updates for price and corporate action-adjusted returns data, OCC is proposing enhancements to its econometric model for calculating statistical parameters for all qualifying risk factors that reflect the most recent data obtained (*e.g.,* OCC would be able to calculate parameters such as volatility and correlations on a daily basis using the new daily price data discussed above). More specifically, OCC proposes to enhance its econometric model by: (i) Introducing daily updates for statistical parameters; (ii) introducing features in its econometric model that are designed to take into account asymmetry in the model used to forecast volatility associated with a risk factor ; (iii) modifying the statistical distribution

[24] *Id.*

[25] *Id.*

[26] *See* Notice, 82 FR at 61355.

In risk management, it is a common practice to establish a floor for volatility at a certain level in order to protect against procyclicality in the model. *See* Notice, 82 FR at 61355, note 14.

[27] *See* Notice, 82 FR at 61355.

[28] *Id.*

[29] *Id.*

[30] *Id.*

[31] *See supra* note 5.

[32] *See* Notice, 82 FR at 61355.

[33] *Id.*

[34] *Id.*

[35] *Id.*

[36] The description of the proposal is substantially excerpted from the Notice. *See* Notice, 82 FR at 61356–61358.

In addition to the proposed methodology changes described herein, OCC also would make some clarifying and clean-up changes, unrelated to the proposed changes described herein, to update its margin methodology to reflect existing practices for the daily calibration of seasonal and non-seasonal energy models and the removal of methodology language for certain products that are no longer cleared by OCC. *See* Notice, 82 FR at 61356, note 17.

[37] De-volatization is a process of normalizing historical data with the associated volatility thus facilitating comparison between different sets of data.

[38] *See supra* note 5.

[39] OCC's covariance and correlation analytics estimate whether risk factors are positively or inversely related and to what extent any relationship exists.

[40] *See* Notice, 82 FR at 61356.

[41] *Id.*

[42] *Id.*

[43] *Id.*

used to model the returns of equity prices; (iv) introducing a second-day forecast for volatility into the model to estimate the two-day scenario distributions for risk factors; and (v) imposing a floor on volatility estimates using a 10-year look back period. These proposed model enhancements are described in detail below.

i. Daily Updates for Statistical Parameters

Under the proposal, the statistical parameters for the model would be updated on a daily basis using the new daily price data obtained by OCC from a reliable third-party (as described above).[44] As a result, OCC would no longer need to rely on scale-factors to approximate day-to-day market volatility for equity-based products.[45] OCC believes that calibrating statistical parameters on a daily basis would allow OCC to calculate more accurate margin requirements that represent the most recent market data.[46]

ii. Proposed Enhancements To Capture Asymmetry in Conditional Variance

The current approach for forecasting the conditional variance for a given risk factor does not consider the asymmetric volatility phenomenon observed in financial markets (also called the ''leverage effect'') where volatility is more accurate and timely and reactive to market downturns.[47] Under the proposal, OCC would amend its econometric model to include new features (*i.e.,* incorporating asymmetry into its forecast volatility) designed to allow the conditional volatility forecast to be more accurate and timely to market downturns and thereby capture the most significant dynamics of the relationship between price and volatility observed in financial markets.[48] OCC believes the proposed enhancement would result in more accurate and responsive margin requirements, particularly in market downturns.[49]

iii. Proposed Change in Statistical Distribution

OCC also proposes to change the statistical distribution used to model the returns of equity prices. OCC's current methodology uses a fat tailed distribution[50] (the Student's t-distribution) to model returns;[51] however, price scenarios generated using very large log-return scenarios (positive) that follow this distribution can approach infinity and could potentially result in excessively large price jumps, a known limitation of this distribution.[52] Under the proposal, OCC would adopt a more defined distribution (Standardized Normal Reciprocal Inverse Gaussian or NRIG) for modeling returns, which OCC believes would more appropriately simulate future returns based on the historical price data for the products in question and allows for more appropriate modeling of fat tails.[53] As a result, OCC believes that the proposed change would lead to more consistent treatment of log returns both on the upside as well as downside of the distribution.[54]

iv. Second Day Volatility Forecast

OCC further proposes to introduce a second-day forecast for volatility into the econometric model to estimate the two-day scenario distributions for risk factors.[55] Under the current methodology, OCC typically uses a two-day horizon to determine its risk exposure to a given portfolio.[56] This is done by simulating 10,000 theoretical price scenarios for the two-day horizon using a one-day forecast conditional variance; the value at risk and expected shortfall components of the margin requirement are then determined from the simulated profit/loss distributions.[57] These one-day and two-day returns scenarios are both simulated using the one-day forecast conditional variance estimate.[58] OCC believes that this could lead to a risk factor's coverage differing substantially on volatile trading days.[59] As a result, OCC proposes to introduce a second-day forecast variance for all equity-based risk factors.[60] The second-day conditional variance forecast would be estimated for each of the 10,000 Monte Carlo returns scenarios, resulting in more accurately estimated two-day scenario distributions, and therefore more accurate and responsive margin requirements.[61]

v. Anti-Procyclical Floor for Volatility Estimates

In addition, OCC proposes to modify its floor for volatility estimates. OCC currently imposes a floor on volatility estimates for its equity-based products using a 500-day look back period.[62] Under the proposal, OCC would extend this look back period to 10 years (2520 days) in the enhanced model and apply this floor to volatility estimates for other products (excluding implied volatility risk factor scenarios).[63] OCC believes that using a longer 10-year look back period will help ensure that OCC captures sufficient historical events/market shocks in the calculation of its anti-procyclical floor.[64]

3. Proposed Enhancements to Correlation Estimates

As described above, OCC's current methodology for estimating covariance and correlations between risk factors relies on the same monthly price data feeding the econometric model, resulting in a similar lag time between updates.[65] In addition, correlation estimates are based off historical returns series, with estimates between a pair of risk factors being highly sensitive to the volatility of either risk factor in the chosen pair.[66] The current approach therefore results in correlation estimates being sensitive to volatile historical data.[67]

In order to address these limitations, OCC proposes to enhance its methodology for calculating correlation estimates by moving to a daily process for updating correlations (with a minimum of one week's lag) to help ensure clearing member account margins are more current and thus more accurate.[68] Moreover, OCC proposes to enhance its approach to modeling correlation estimates by de-volatizing[69] the returns series to estimate the correlations.[70] Under the proposed approach, OCC would first consider the returns excess of the mean (*i.e.,* the average estimated from historical data sample) and then further scale them by the corresponding estimated conditional

[44] *See* Notice, 82 FR at 61356. OCC notes that this change would apply to most risk factors with the exception of certain equity indexes, Treasury securities, and energy futures products, which are already updated on a daily basis. *See* Notice, 82 FR 61356, at note 18.

[45] *See* Notice, 82 FR at 61356.

[46] *Id.*

[47] *See* Notice, 82 FR at 61357.

[48] *Id.*

[49] *Id.*

[50] A data set with a ''fat tail'' is one in which extreme price returns have a higher probability of occurrence than would be the case in a normal distribution. *See* Notice, 82 FR at 61357, note 21.

[51] *See* Notice, 82 FR at 61357.

[52] *Id.*

[53] *Id.*

[54] *Id.*

[55] *Id.* This proposed change would not apply to STANS implied volatility scenario risk factors. For those risk factors, OCC's existing methodology would continue to apply. *See* Notice, 82 FR at 61357, note 23.

[56] *See* Notice, 82 FR at 61357.

[57] *Id.*

[58] *Id.*

[59] *Id.*

[60] *Id.*

[61] *Id.*

[62] *Id.*

[63] *Id.*

[64] *Id.*

[65] *Id.*

[66] *Id.*

[67] *Id.*

[68] *Id.*

[69] *Id.*

[70] *Id.*

variances.[71] OCC believes that using de-volatized returns would lead to normalizing returns across a variety of asset classes and make the correlation estimator less sensitive to sudden market jumps and therefore more stable.[72]

4. Defaulting Securities Methodology

Under the proposal, OCC would enhance its methodology for estimating the defaulting variance in its model.[73] OCC's margin system is dependent on market data to determine clearing member margin requirements.[74] Securities that do not have enough historical data are classified as ''defaulting securities'' within OCC systems.[75] As noted above, within current STANS systems, the theoretical price scenarios for defaulting securities are simulated using uncorrelated return scenarios with a zero mean and a default variance, with the default variance being estimated as the average of the top 25 percent quantile of the conditional variances of all securities.[76] As a result, these default estimates may be impacted by extremely illiquid securities with discontinuous data.[77] In addition, the default variance (and the associated scale-factors used to scale up volatility) is also subject to sudden jumps across volatile months.[78] To mitigate these concerns, OCC proposes to: (i) Use only optionable equity securities to estimate the defaulting variance; (ii) use a shorter time series to enable calibration of the model for all securities; and (iii) simulate default correlations with the driver Russell 2000 index (''RUT'').[79]

i. Proposed Modifications to Securities and Quantile Used in Estimation

Under the proposal, only optionable equity securities, which are typically more liquid, would be considered while estimating the default variance.[80] This limitation would eliminate from the estimation almost all illiquid securities with discontinuous data that could contribute to high conditional variance estimates and thus a high default variance.[81] In addition, OCC proposes to estimate the default variance as the lowest estimate of the top 10% of the floored conditional variance across the risk factors.[82] OCC believes that this change in methodology would help ensure that while the estimate is aggressive it is also robust to the presence of outliers caused by a few extremely volatile securities that influence the location parameter of a distribution.[83] Moreover, as a consequence of the daily updates described above, the default variances would change daily and there would be no scale-factor to amplify the effect of the variance on risk factor coverage.[84]

ii. Proposed Change in Time Series

Under the proposal, OCC would use a shorter time series to enable calibration of the model for all securities.[85] Currently, OCC does not calibrate parameters for defaulting securities that have historical data of less than two years.[86] OCC is proposing to shorten this time period to approximately 6 months (180 days) to enable calibration of the model for all securities within OCC systems.[87] OCC believes that this shorter time series is sufficient to produce stable calibrated parameters.[88]

iii. Proposed Default Correlation

Under the proposal, returns scenarios for defaulting securities [89] would be simulated using a default correlation with the driver RUT.[90] The default correlation of the RUT index is roughly equal to the median of all positively correlated securities with the index.[91] Since 90% of the risk factors in OCC systems correlate positively to the RUT index, OCC would only consider those risk factors to determine the median.[92] OCC believes that the median of the correlation distribution has been steady over a number of simulations and is therefore proposing that it replace the current methodology of simulating uncorrelated scenarios, which OCC believes is not a realistic approach.[93]

IV. Discussion and Commission Findings

Although the Act does not specify a standard of review for an advance notice, the stated purpose of the Act is instructive: To mitigate systemic risk in the financial system and promote financial stability by, among other things, promoting uniform risk management standards for SIFMUs and strengthening the liquidity of SIFMUs.[94]

Section 805(a)(2) of the Act [95] authorizes the Commission to prescribe regulations containing risk-management standards for the payment, clearing, and settlement activities of designated clearing entities engaged in designated activities for which the Commission is the supervisory agency. Section 805(b) of the Act [96] provides the following objectives and principles for the Commission's risk-management standards prescribed under Section 805(a):

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

Section 805(c) provides, in addition, that the Commission's risk-management standards may address such areas as risk-management and default policies and procedures, among others areas.[97]

The Commission has adopted risk-management standards under Section 805(a)(2) of the Act and the Exchange Act (the ''Clearing Agency Rules'').[98] The Clearing Agency Rules require, among other things, each covered clearing agency to establish, implement, maintain, and enforce written policies and procedures that are reasonably designed to meet certain minimum requirements for operations and risk-management practices on an ongoing

[71] *Id.*
[72] *Id.*
[73] *Id.*
[74] *See* Notice, 82 FR at 61357–61358.
[75] *See* Notice, 82 FR at 61358.
[76] *Id.*
[77] *Id.*
[78] *Id.*
[79] *Id.*
[80] *Id.*
[81] *Id.*
[82] *Id.*
[83] *Id.*
[84] *Id.*
[85] *Id.*
[86] *Id.*
[87] *Id.*
[88] *Id.*
[89] *See supra* note 5.
[90] *See* Notice, 82 FR at 61358. OCC notes that, in certain limited circumstances where there are reasonable grounds backed by the existing return history to support an alternative approach in which the returns are strongly correlated with those of an existing risk factor (a ''proxy'') with a full price history, OCC's margin methodology allows its Financial Risk Management staff to construct a ''conditional'' simulation to override any default treatment that would have otherwise been applied to the defaulting security. *See* Notice, 82 FR at 61358, note 26.
[91] *See* Notice, 82 FR at 61358.
[92] *Id.*
[93] *Id.*
[94] *See* 12 U.S.C. 5461(b).
[95] 12 U.S.C. 5464(a)(2).
[96] 12 U.S.C. 5464(b).
[97] 12 U.S.C. 5464(c).
[98] 17 CFR 240.17Ad–22. *See* Securities Exchange Act Release No. 68080 (October 22, 2012), 77 FR 66220 (November 2, 2012) (S7–08–11). *See also* Securities Exchange Act Release No. 78961 (September 28, 2016), 81 FR 70786 (October 13, 2016) (S7–03–14) (''Covered Clearing Agency Standards''). The Commission established an effective date of December 12, 2016, and a compliance date of April 11, 2017, for the Covered Clearing Agency Standards. On March 4, 2017, the Commission granted covered clearing agencies a temporary exemption from compliance with Rule 17Ad–22(e)(3)(ii) and certain requirements in Rules 17Ad–22(e)(15)(i) and (ii) until December 31, 2017, subject to certain conditions. OCC is a ''covered clearing agency'' as defined in Rule 17Ad–22(a)(5).

basis.[99] As such, it is appropriate for the Commission to review advance notices for consistency with the objectives and principles for risk-management standards described in the Clearing Agency Rules.

A. Consistency With Section 805(b) of the Act

The Commission believes that the proposal contained in OCC's Advance Notice is consistent with the stated objectives and principles of Section 805(b) of the Act. Specifically, as discussed below, the Commission believes that the changes proposed in the Advance Notice are consistent with promoting robust risk management in the area of credit risk and promoting safety and soundness, which in turn, would help reduce systemic risks and support the stability of the broader financial system.[100]

The Commission believes that the proposed changes promote robust risk management by enhancing OCC's margin methodology for the reasons set forth below.

First, as noted above, the STANS methodology is used to measure the exposure of portfolios of options and futures cleared by OCC and cash instruments in margin collateral on behalf of its clearing members, which allows OCC to calculate its clearing members' margin requirements. Currently, STANS makes these calculation based on monthly price data obtained from a third-party vendor. To make the calculations more accurate and representative of recent market data, OCC proposes to amend its margin methodology to require the use of daily updates for equity price data instead of monthly updates, thereby reducing OCC's reliance on scale-factors.[101] Accordingly, the Commission believes that changing to daily price data updates would result in more accurate and timely estimations of OCC's clearing members' margin requirements.

Second, the proposal discussed above to amend OCC's margin methodology to require the use of daily updates for price data would allow for updates to the margin model's statistical parameters on a daily, instead of monthly, basis.[102] Similarly, the proposal would also amend STANS to introduce other features that would improve the accuracy of its models and, consequently, produce risk exposure and margin requirement calculations that better reflect current market conditions. For example, the proposal would: (i) Amend STANS to account for the asymmetric volatility phenomenon observed in financial markets and allow for conditional volatility forecast to be more accurate and timely to market downturns;[103] (ii) amend the statistical distribution for modeling equity price returns to more appropriately model fat tails and, consequently, more accurately model returns; (iii) introduce a second-day volatility forecast into the model to provide for more accurate and timely estimations of its two-day scenario distributions then currently provided by its one-day forecast variance; and (iv) amend STANS to impose a volatility floor using a 10-year look back period to reduce procyclicality in the margin model by capturing sufficient market events in its calculations. Accordingly, the Commission believes that the introduction of enhancements to improve the accuracy of the STANS margin models would enable OCC to more effectively calculate clearing members' margin requirements.

Third, as described earlier, OCC proposes to enhance its approach to model correlation estimates by moving to a daily process for updating correlations and by de-volatizing the return series to estimate the correlations. This change is intended to lead to normalized returns across a variety of asset classes and make the correlation estimator less sensitive to sudden market jumps and therefore more stable. Accordingly, the Commission believes that updating the correlations daily and de-volatizing the return series to reduce the estimator's sensitivity to market jumps promotes more accurate and robust models within the STANS methodology.

Finally, to enhance its methodology for estimating the defaulting securities in its model, OCC proposes to: (i) Modify the method for estimating the default variance to include only optionable equity securities; (ii) use a shorter time series of six months instead of two years to enable calibration of the model for all securities within OCC systems; and (iii) simulate return scenarios for defaulting securities assuming a default correlation with the driver RUT. Accordingly, the Commission believes these changes will mitigate the effect that extremely illiquid securities with discontinuous data can have on OCC's default estimates, while further decreasing the degree to which the default variance is subject to sudden jumps across volatile months.

Taken together, the Commission believes that these proposals would improve the accuracy of OCC's credit exposure calculations and, consequently, OCC's calculations of its clearing members' margin requirements. Therefore, the Commission believes the changes proposed in the Advance Notice would promote robust risk management, consistent with Section 805(b) of the Act.[104]

The Commission further believes that the proposed changes would help promote safety and soundness, reduce systemic risk and support the stability of the broader financial system. As described above, the proposed changes are designed to better limit OCC's credit exposure to the clearing members in the event of a clearing member default. More specifically, the daily updates of the pricing data, the enhancements to the econometric model, and the enhancements to the correlation estimates promote more accurate and stable model measurements that have less volatility. Moreover, the enhancements to the defaulting securities methodology will decrease the manner in which the default estimates are affected by illiquid securities and reducing the amount to which the default variance is subject to sudden jumps.

By better limiting credit exposure to its clearing members, OCC's proposed changes are designed to help ensure that, in the event of a clearing member default, OCC's operations would not be disrupted and that its SIFMU functions would therefore be able to continue in a safe and sound manner. Furthermore, the ongoing safe and sound functioning of OCC via an enhanced ability to determine margin requirements should help ensure that non-defaulting clearing members would not be exposed to losses that they cannot anticipate or control. As such, the Commission finds that the proposed changes are consistent with the promotion of safety and soundness, which in turn, would reduce systemic risks and support the stability of the broader financial system, consistent with Section 805(b) of the Act.[105]

Therefore, the Commission believes the changes proposed in the Advance Notice are consistent with Section 805(b) of the Act.[106]

B. Consistency With Exchange Act Rule 17Ad–22(e)(6)

The Commission believes that the changes proposed in the Advance

[99] 17 CFR 240.17Ad–22.

[100] 12 U.S.C. 5464(b).

[101] *See supra* note 40.

[102] *See supra* note 40.

[103] *See* Notice, 82 FR at 61357.

[104] 12 U.S.C. 5464(b).

[105] *Id.*

[106] *Id.*

Notice are consistent with Rule 17Ad–22(e)(6) under the Exchange Act, which requires that OCC establish, implement, maintain, and enforce written policies and procedures reasonably designed to cover its credit exposures to its participants by establishing a risk-based margin system that, among other things: (i) Considers, and produces margin levels commensurate with the risks and particular attributes of each relevant product, portfolio, and market; (ii) calculates margin sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default; and (iii) uses reliable sources of timely price data and uses procedures and sound valuation models for addressing circumstances in which pricing data is not readily available or reliable.[107]

As described above, the proposal contained in the Advance Notice would make several amendments to OCC's margin methodology designed to improve how it: (i) Accounts for asymmetry in conditional variance; [108] (ii) models the statistical distribution of price returns; [109] (iii) models second-day volatility forecasts; [110] (iv) estimates covariance and correlations between risk factors to provide for stable and sensitive correlation estimations; [111] and (v) treats defaulting securities by reducing the impact that illiquid securities with discontinuous data have on default variance estimates.[112]

The Commission believes the modifications proposed are designed to improve the manner in which STANS would calculate daily margin requirements for OCC's clearing members. Consequently, the Commission believes that the proposal is designed both (i) to consider, and produce margin levels commensurate with, the risks and particular attributes of each relevant product, portfolio, and market [113] and (ii) to calculate margin sufficient to cover OCC's potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default.[114] Additionally, as discussed in the Advance Notice,[115] the proposal would introduce daily updates for price data for equity products. This data would be obtained from a reliable industry vendor. Consequently, the Commission believes that the proposal contained in the Advance Notice would help ensure that OCC's margin methodology would utilize a reliable source of timely price data, which would better reflect current market conditions than the current monthly updates, and thereby result in more accurate and responsive margin requirements.[116] Consequently, the Commission finds that the proposal is consistent with Exchange Act Rule 17Ad–22(e)(6).

V. Conclusion

It is therefore noticed, pursuant to Section 806(e)(1)(I) of the Payment Supervision Act,[117] that the Commission *does not object* to Advance Notice (SR–OCC–2017–811) and that OCC is *authorized* to implement the proposed change.

By the Commission.

Eduardo A. Aleman,

Assistant Secretary.

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[107] 17 CFR 240.17AD–22(e)(6).

[108] *See* Notice of Filing of Advance Notice, 82 FR at 61357.

[109] *Id.*

[110] *Id.*

[111] *Id.*

[112] *See* Notice of Filing of Advance Notice, 82 FR at 61357–61358.

[113] *See* 17 CFR 240.17Ad–22(e)(6)(i).

[114] *See* 17 CFR 240.17Ad–22(e)(6)(iii).

[115] *See* Notice, 82 FR at 61356.

[116] *See* 17 CFR 240.17Ad–22(e)(6)(iv).

[117] 12 U.S.C. 5465(e)(1)(G).

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–83302; File No. SR–CboeBZX–2018–034]

Self-Regulatory Organizations; Cboe BZX Exchange, Inc.; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change Relating to the Listing and Trading of the iShares Gold Strategy ETF, a Series of the iShares U.S. ETF Trust

May 22, 2018.

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 May 9, 2018, Cboe BZX Exchange, Inc. (''Exchange'' or ''BZX'') filed with the Securities and Exchange Commission (''Commission'') the proposed rule change as described in Items I and II below, which Items have been prepared by the Exchange. The Exchange has designated this proposal as a ''non-controversial'' proposed rule change pursuant to Section 19(b)(3)(A) of the Act [3] and Rule 19b–4(f)(6)(iii) [4] thereunder, which renders it effective upon filing with the Commission. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

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

[2] 17 CFR 240.19b–4.

[3] 15 U.S.C. 78s(b)(3)(A).

[4] 17 CFR 240.19b–4(f)(6)(iii).

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Exchange filed a proposal to amend a representation made in a rule change previously approved by the Commission relating to the listing and trading of the iShares Gold Strategy ETF (the ''Fund''), a series of the iShares U.S. ETF Trust (the ''Trust'').

The text of the proposed rule change is available at the Exchange's website at *www.markets.cboe.com,* at the principal office of the Exchange, and at the Commission's Public Reference Room.

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

In its filing with the Commission, the Exchange 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. The Exchange has prepared summaries, set forth in Sections A, B, and C below, of the most significant parts of such statements.

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

1. Purpose

The shares of the Fund (the ''Shares'') were approved for listing and trading on the Exchange under Exchange Rule 14.11(i), which governs the listing and trading of Managed Fund Shares.[5] The Shares have not yet commenced trading on the Exchange. The Fund is a series of the Trust, which was established as a Delaware statutory trust on June 21, 2011. BlackRock Fund Advisors (the ''Adviser'') will serve as the investment adviser to the Fund. The Trust is registered with the Commission as an open-end management investment company and has filed a registration statement on behalf of the Fund on Form N–1A (''Registration Statement'') with the Commission.[6]

[5] *See* Securities Exchange Act Release No. 83014 (April 9, 2018), 83 FR 16150 (April 13, 2018) (SR–CboeBZX–2017–023) (the ''Approval Order'').

[6] *See* Registration Statement on Form N–1A for the Trust, filed with the Commission on November 1, 2017 (File Nos. 333–179904 and 811–22649). The descriptions of the Fund and the Shares contained herein are based, in part, on information in the

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