

Required fields are shown with yellow backgrounds and asterisks.

Filing by Options Clearing Corporation
Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

Initial * <input checked="" type="checkbox"/>	Amendment * <input type="checkbox"/>	Withdrawal <input type="checkbox"/>	Section 19(b)(2) * <input type="checkbox"/>	Section 19(b)(3)(A) * <input type="checkbox"/>	Section 19(b)(3)(B) * <input type="checkbox"/>
Pilot <input type="checkbox"/>			Rule		
Extension of Time Period for Commission Action * <input type="checkbox"/>		Date Expires * <input type="text"/>	<input type="checkbox"/> 19b-4(f)(1)	<input type="checkbox"/> 19b-4(f)(4)	
			<input type="checkbox"/> 19b-4(f)(2)	<input type="checkbox"/> 19b-4(f)(5)	
			<input type="checkbox"/> 19b-4(f)(3)	<input type="checkbox"/> 19b-4(f)(6)	

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010	Security-Based Swap Submission pursuant to the Securities Exchange Act of 1934
Section 806(e)(1) * <input checked="" type="checkbox"/>	Section 806(e)(2) * <input type="checkbox"/>
	Section 3C(b)(2) * <input type="checkbox"/>

Exhibit 2 Sent As Paper Document <input type="checkbox"/>	Exhibit 3 Sent As Paper Document <input type="checkbox"/>
---	---

Description

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

Advance notice filing related to The Options Clearing Corporation's margin methodology for incorporating variations in implied volatility.

Contact Information

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

First Name * Justin	Last Name * Byrne
Title * Vice President, Regulatory Filings	
E-mail * jbyrne@theocc.com	
Telephone * (202) 971-7238	Fax (312) 322-6280

Signature

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

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

(Title *)

Date 10/22/2018	Vice President, Regulatory Filings
By Justin W. Byrne	
(Name *)	

Justin Byrne, jbyrne@theocc.com

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

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

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

Form 19b-4 Information *

Add Remove View

The self-regulatory organization must provide all required information, presented in a clear and comprehensible manner, to enable the public to provide meaningful comment on the proposal and for the Commission to determine whether the proposal is consistent with the Act and applicable rules and regulations under the Act.

Exhibit 1 - Notice of Proposed Rule Change *

Add Remove View

The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO]-xx-xx). A material failure to comply with these guidelines will result in the proposed rule change being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)

Exhibit 1A- Notice of Proposed Rule Change, Security-Based Swap Submission, or Advance Notice by Clearing Agencies *

Add Remove View

The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO]-xx-xx). A material failure to comply with these guidelines will result in the proposed rule change, security-based swap submission, or advance notice being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)

Exhibit 2 - Notices, Written Comments, Transcripts, Other Communications

Add Remove View

Exhibit Sent As Paper Document

Copies of notices, written comments, transcripts, other communications. If such documents cannot be filed electronically in accordance with Instruction F, they shall be filed in accordance with Instruction G.

Exhibit 3 - Form, Report, or Questionnaire

Add Remove View

Exhibit Sent As Paper Document

Copies of any form, report, or questionnaire that the self-regulatory organization proposes to use to help implement or operate the proposed rule change, or that is referred to by the proposed rule change.

Exhibit 4 - Marked Copies

Add Remove View

The full text shall be marked, in any convenient manner, to indicate additions to and deletions from the immediately preceding filing. The purpose of Exhibit 4 is to permit the staff to identify immediately the changes made from the text of the rule with which it has been working.

Exhibit 5 - Proposed Rule Text

Add Remove View

The self-regulatory organization may choose to attach as Exhibit 5 proposed changes to rule text in place of providing it in Item I and which may otherwise be more easily readable if provided separately from Form 19b-4. Exhibit 5 shall be considered part of the proposed rule change.

Partial Amendment

Add Remove View

If the self-regulatory organization is amending only part of the text of a lengthy proposed rule change, it may, with the Commission's permission, file only those portions of the text of the proposed rule change in which changes are being made if the filing (i.e. partial amendment) is clearly understandable on its face. Such partial amendment shall be clearly identified and marked to show deletions and additions.

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 19b-4

Advance Notice
by

THE OPTIONS CLEARING CORPORATION

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

Item 1. Text of the Advance Notice

In accordance with Section 806(e)(1) of Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act, entitled Payment, Clearing, and Settlement Supervision Act of 2010 (“Clearing Supervision Act”),¹ and Rule 19b-4(n)(i)² of the Securities Exchange Act of 1934 (“Exchange Act” or “Act”),³ this advance notice is filed by The Options Clearing Corporation (“OCC”) in connection with proposed changes to enhance OCC’s model for incorporating variations in implied volatility within OCC’s margin methodology (“Implied Volatility Model”), the System for Theoretical Analysis and Numerical Simulations (“STANS”).⁴

The proposed changes to OCC’s Margins Methodology document are contained in confidential Exhibit 5 of the filing. Material proposed to be added is marked by underlining and material proposed to be deleted is marked by strikethrough text. The proposed changes are described in detail in Item 10 below. The proposed changes do not require any changes to the text of OCC’s By-Laws or Rules. All terms with initial capitalization that are not otherwise defined herein have the same meaning as set forth in the OCC By-Laws and Rules.⁵

¹ 12 U.S.C. 5465(e)(1).

² 17 CFR 240.19b-4(n)(1)(i).

³ 15 U.S.C. 78a et seq.

⁴ OCC also has filed a proposed rule change with the Commission in connection with the proposed changes. See SR-OCC-2018-014.

⁵ OCC’s By-Laws and Rules can be found on OCC’s public website: <http://optionsclearing.com/about/publications/bylaws.jsp>.

Item 2. Procedures of the Self-Regulatory Organization

The advance notice was approved for filing with the Commission by the Risk Committee of the Board of Directors on June 18, 2018, pursuant to authority delegated by the Board of Directors on May 2, 2018.

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

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

Not applicable.

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

Not applicable.

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

Written comments were not and are not intended to be solicited with respect to the proposed changes and none have been received. OCC will notify the Commission of any written comments received by OCC.

Item 6. Extension of Time Period for Commission Action

Not applicable.

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

Not applicable.

Item 8. Advance Notice Based on Rule of Another Self-Regulatory Organization or of the Commission

Not applicable.

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

Not applicable.

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

Description of the Proposed Change

Background

STANS Overview

STANS is OCC's proprietary risk management system for calculating Clearing Member margin requirements.⁶ The STANS methodology utilizes large-scale Monte Carlo simulations to forecast price and volatility movements in determining a Clearing Member's margin requirement.⁷ STANS margin requirements are calculated at the portfolio level of Clearing Member accounts with positions in marginable securities and consists of an estimate of two primary components: a base component and a stress test add-on component. The base component is an estimate of a 99% expected shortfall⁸ over a two-day time horizon. The concentration/dependence stress test charge is obtained by considering increases in the expected margin shortfall for an account that would occur due to (i) market movements that are especially large and/or in which certain risk factors would exhibit perfect or zero correlations rather than correlations otherwise estimated using historical data or (ii) extreme and adverse idiosyncratic

⁶ 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/>.

⁷ See OCC Rule 601.

⁸ The expected shortfall component is established as the estimated average of potential losses higher than the 99% value at risk threshold. The term "value at risk" or "VaR" refers to a statistical technique that, generally speaking, is used in risk management to measure the potential risk of loss for a given set of assets over a particular time horizon.

movements for individual risk factors to which the account is particularly exposed. The STANS methodology is used to measure the exposure of portfolios of options and futures cleared by OCC and cash instruments in margin collateral.⁹

The econometric models underlying STANS currently incorporate a number of risk factors. A “risk factor” within OCC’s margin system is defined as a product or attribute whose historical data is used to estimate and simulate the risk for an associated product. The majority of risk factors utilized in the STANS methodology are the returns on individual equity securities; however, a number of other risk factors may be considered, including, among other things, returns on implied volatility risk factors.¹⁰

Current Implied Volatility Model in STANS

Generally speaking, the implied volatility of an option is a measure of the expected future volatility of the option’s underlying security at expiration, which is reflected in the current option premium in the market. Using the Black-Scholes options pricing model, the implied volatility is the standard deviation of the underlying asset price necessary to arrive at the market price of an option of a given strike, time to maturity, underlying asset price and the current risk-free rate. In

⁹ OCC notes that, pursuant to OCC Rule 601(e)(1), OCC also calculates initial margin requirements for segregated futures accounts using the Standard Portfolio Analysis of Risk Margin Calculation System (“SPAN”). No changes are proposed to OCC’s use of SPAN because the proposed changes do not concern futures. See Securities Exchange Act Release No. 72331 (June 5, 2014), 79 FR 33607 (June 11, 2014) (SR-OCC-2014-13).

¹⁰ In December 2015, the Commission approved a proposed rule change and issued a Notice of No Objection to an advance notice filing by OCC to its modify margin methodology by more broadly incorporating variations in implied volatility within STANS. See Securities Exchange Act Release No. 76781 (December 28, 2015), 81 FR 135 (January 4, 2016) (SR-OCC-2015-016) and Securities Exchange Act Release No. 76548 (December 3, 2015), 80 FR 76602 (December 9, 2015) (SR-OCC-2015-804). As discussed further below, implied volatility risk factors in STANS are a set of chosen volatility pivot points per product, depending on the tenor of the option.

effect, the implied volatility is responsible for that portion of the premium that cannot be explained by the then-current intrinsic value of the option (*i.e.*, the difference between the price of the underlying and the exercise price of the option), discounted to reflect its time value. OCC considers variations in implied volatility within STANS to ensure that the anticipated cost of liquidating options positions in an account recognizes the possibility that implied volatility could change during the two-business day liquidation time horizon and lead to corresponding changes in the market prices of the options.

OCC models the variations in implied volatility used to re-price options within STANS for substantially all option contracts¹¹ available to be cleared by OCC that have a residual tenor¹² of less than three years (“Shorter Tenor Options”).¹³ To address variations in implied volatility, OCC models a volatility surface¹⁴ for Shorter Tenor Options by incorporating into the econometric models underlying STANS certain risk factors (*i.e.*, implied volatility pivot points)

¹¹ OCC’s Implied Volatility Model excludes: (i) binary options, (ii) options on commodity futures, (iii) options on U.S. Treasury securities, and (iv) Asians and Cliquets. These relatively new products were introduced as the implied volatility margin methodology changes were in the process of being completed by OCC, and OCC had *de minimus* open interest in those options. OCC therefore did not believe there was a substantive risk if those products were excluded from the implied volatility model. See id.

¹² The “tenor” of an option is the amount of time remaining to its expiration.

¹³ OCC also incorporates variations in implied volatility as risk factors for certain options with residual tenors of at least three years (“Longer Tenor Options”); however, the proposed changes described herein would not apply to OCC’s model for Longer Tenor Options. See Securities Exchange Act Release Nos. 68434 (December 14, 2012), 77 FR 57602 (December 19, 2012) (SR-OCC-2012-14); 70709 (October 18, 2013), 78 FR 63267 (October 23, 2013) (SR-OCC-2013-16).

¹⁴ The term “volatility surface” refers to a three-dimensional graphed surface that represents the implied volatility for possible tenors of the option and the implied volatility of the option over those tenors for the possible levels of “moneyness” of the option. The term “moneyness” refers to the relationship between the current market price of the underlying interest and the exercise price.

based on a range of tenors and option deltas.¹⁵ Currently, these implied volatility pivot points consist of three tenors of one month, three months and one year, and three deltas of 0.25, 0.5, and 0.75, resulting in nine implied volatility risk factors. These pivot points are chosen such that their combination allows the model to capture changes in level, skew, convexity and term structure of the implied volatility surface. OCC uses a GARCH model¹⁶ to forecast the volatility for each implied volatility risk factor at the nine pivot points.¹⁷ For each Shorter Tenor Option in the account of a Clearing Member, changes in its implied volatility are simulated using forecasts obtained from daily implied volatility market data according to the corresponding pivot point and the price of the option is computed to determine the amount of profit or loss in the account under the particular STANS price simulation. Additionally, OCC uses simulated closing prices for the assets underlying the options in the account of a Clearing Member that are scheduled to expire within the liquidation time horizon of two business days to compute the options' intrinsic value and uses those values to help calculate the profit or loss in the account.¹⁸

OCC performed a number of analyses of its current Implied Volatility Model and to support development of the proposed model changes, including backtesting and impact analysis

¹⁵ The “delta” of an option represents the sensitivity of the option price with respect to the price of the underlying security.

¹⁶ The acronym “GARCH” refers to an econometric model that can be used to estimate volatility based on historical data. See generally Tim Bollerslev, “Generalized Autoregressive Conditional Heteroskedasticity,” Journal of Econometrics, 31(3), 307-327 (1986).

¹⁷ STANS relies on 10,000 price simulation scenarios that are based generally on a historical data period of 500 business days, which are updated daily to keep model results from becoming stale.

¹⁸ For such Shorter Tenor Options that are scheduled to expire on the open of the market rather than the close, OCC uses the relevant opening price for the underlying assets.

of the proposed model enhancements as well as comparison of OCC's current model performance against certain industry benchmarks.¹⁹ OCC's analysis demonstrated that one attribute of the current model is that the volatility changes forecasted by the GARCH model are extremely sensitive to sudden spikes in volatility, which can at times result in over reactive margin requirements that OCC believes are unreasonable and procyclical.²⁰

For example, on February 5, 2018, the market experienced extreme levels of volatility, with the Cboe Volatility Index ("VIX")²¹ moving from 17% up to 37%, representing a relative move of 116% (which is the largest relative daily jump in the history of the index). Under OCC's current model, OCC observed that the GARCH forecast SPX volatility for at-the-money implied volatility for a one-month tenor was approximately 4 times larger than the comparable market index, the Cboe VVIX Index, which is a volatility of volatility measure in that it represents the expected volatility of the 30-day forward price of the VIX. As a result, aggregated STANS margins jumped more than 80% overnight due to the GARCH model and margins for certain individual Clearing Members increased by a factor of 10.²²

¹⁹ OCC has provided results of these analyses to the Commission in confidential Exhibit 3 of the filing.

²⁰ A quality that is positively correlated with the overall state of the market is deemed to be "procyclical." For example, procyclicality may be evidenced by increasing margin requirements in times of stressed market conditions and low margin requirements when markets are calm. Hence, anti-procyclical features in a model are measures intended to prevent risk-based models from fluctuating too drastically in response to changing market conditions.

²¹ The VIX is an index designed to measure the 30-day expected volatility of the Standard & Poor's 500 index ("SPX").

²² For example, under the current model the total margin requirement calculated for one particular Clearing Member jumped from \$120 million on February 2, 2018, to \$1.78 billion on February 5, 2018, representing a 14 times increase in the requirement.

In addition, volatility tends to be mean reverting; that is, volatility will quickly return to its long-run mean or average from an elevated level, so it is unlikely that volatility would continue to make big jumps immediately following a drastic increase. For example, based on the VIX history from 1990-2018, VIX levels jumped above 35 (about the level observed on February 5, 2018) for approximately 293 days (i.e., 4% of the sample period). From the level of 35 or higher, the range of daily change on the VIX index was between 27% and -35%. However, the largest daily changes on one-month at-the-money SPX implied volatility forecasted by OCC's current GARCH model on February 5, 2018, were far in excess of those historical realized amounts, which points to extreme procyclicality issues that need to be addressed in the current model.²³

OCC also performed backtesting of the current model and proposed model enhancements to evaluate and compare the performance of each model from a margin coverage perspective. OCC's backtesting demonstrated that exceedance counts²⁴ and overall coverage levels over the backtesting period using the proposed model enhancements were substantially similar to the results obtained from the current production model. As a result, OCC believes the current model tends to be overly conservative/reactive, and the proposed model is more appropriately commensurate with the risks presented by changes in implied volatility.

²³ For example, OCC's current model resulted in a maximum variation of 1100% in the one-month at-the-money SPX implied volatility pivot when compared with a maximum 35% move in the VIX for VIX levels greater than 30. Additionally, the model-generated number is significantly higher than 116%, which is the largest realized historical move in the VIX that occurred on February 5, 2018.

²⁴ Exceedance counts here refer to instances where the actual loss on portfolio over the liquidation period of two business days exceeds the margin amounts generated by the model.

OCC believes that the sudden, extreme and unreasonable increases in margin requirements that may be experienced under its current Implied Volatility Model may stress certain Clearing Members' ability to obtain sufficient liquidity to meet these significantly increased margin requirements, particularly in periods of sudden, extreme volatility. OCC therefore is proposing changes to its Implied Volatility Model to limit procyclicality and produce margin requirements that OCC believes are more reasonable and are also commensurate with the risks presented by its cleared options products.

Proposed Changes

OCC proposes to modify its Implied Volatility Model by introducing an exponentially weighted moving average²⁵ for the daily forecasted volatility for implied volatility risk factors calculated using the GARCH model. Specifically, when forecasting the volatility for each implied volatility risk factor at each of the nine pivot points, OCC would use an exponentially weighted moving average of forecasted volatilities over a specified look-back period rather than using raw daily forecasted volatilities. The exponentially weighted moving average would involve the selection of a look-back period over which the data would be averaged and a decay factor (or weighting factor), which is a positive number between zero and one, that represents the weighting factor for the most recent data point.²⁶ The look-back period and decay factor would be model parameters subject to monthly review,²⁷ along with other model parameters that are

²⁵ An exponentially weighted moving average is a statistical method that averages data in a way that gives more weight to the most recent observations using an exponential scheme.

²⁶ The lower the number the more weight is attributed to the more recent data (e.g., if the value is set to one, the exponentially weighted moving average becomes a simple average).

²⁷ OCC initially would use a look-back period of 22 days and an initial decay factor of 0.94

reviewed by OCC's Model Risk Working Group ("MRWG")²⁸ in accordance with OCC's internal procedure for margin model parameter review and sensitivity analysis, and these parameters would be subject to change upon approval of the MRWG.

The proposed changes are intended to reduce the oversensitivity of the current Implied Volatility Model to large, sudden shocks in market volatility and therefore result in margin requirements that are more stable and that remain commensurate with the risks presented during periods of sudden, extreme volatility.²⁹ The proposed changes are expected to produce margin requirements that are very similar to those generated using OCC's existing model during quiet, less volatile market periods; however, during more volatile periods, the proposed changes would result in a more measured initial response to increases in the volatility of volatility with margin requirements that may remain elevated for a longer period of time after the shock subsides than experienced under OCC's current model. The proposed changes are intended to reduce procyclicality in OCC's margin methodology across volatile market periods while continuing to capture changes in implied volatility and produce margin requirements that are commensurate with the risks presented by OCC's cleared options products. The proposed changes therefore

for the exponentially weighted moving average. OCC believes the 22-day look-back is an appropriate initial parameter setting as it would allow for close to monthly updates of the GARCH parameters used in the model. The decay factor value of 0.94 was selected based on the factor initially proposed by JP Morgan's RiskMetrics methodology (see JPMorgan/Reuters, 1996. "RiskMetrics - Technical Document", Fourth edition).

²⁸ The MRWG is responsible for assisting OCC's Management Committee in overseeing and governing OCC's model-related risk issues and includes representatives from OCC's Financial Risk Management department, Quantitative Risk Management department, Model Validation Group, and Enterprise Risk Management department.

²⁹ As noted above, OCC has performed analysis of the impact of the proposed changes, and OCC's backtesting of the proposed model demonstrates comparable exceedance counts and coverage levels to the current model during the most recent volatile period.

would reduce the risk that a sudden, extreme increase in margin requirements may stress Clearing Members' ability to obtain liquidity to meet such increased requirements, particularly in periods of extreme volatility.

Implementation Timeframe

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

Anticipated Effect on and Management of Risk

The volatility changes forecasted by OCC's current Implied Volatility Model are extremely sensitive to large, sudden spikes in volatility, which can at times result in over reactive margin requirements that OCC believes are unreasonable and procyclical (for the reasons set forth above). Such sudden, unreasonable increases in margin requirements may stress certain Clearing Members' ability to obtain liquidity to meet those requirements, particularly in periods of extreme volatility, and could result in a Clearing Member being delayed in meeting, or ultimately failing to meet, its daily settlement obligations to OCC. OCC notes that the proposed changes are expected to produce margin requirements that are very similar to those generated using OCC's existing model during quiet, less volatile market periods. The proposed changes would, however, result in a more measured initial response to increases in the volatility of volatility with margin requirements that may remain elevated for a longer period after the shock subsides than experienced under OCC's current model. The proposed changes would therefore reduce the likelihood that OCC's Implied Volatility Model would produce extreme, over reactive margin requirements that could strain the ability of certain Clearing Members to meet their daily

margin requirements at OCC by reducing procyclicality in OCC's margin methodology and ensuring more stable and appropriate changes in margin requirements across volatile market periods while continuing to capture changes in implied volatility and produce margin requirements that are commensurate with the risks presented.

Consistency with the Payment, Clearing and Settlement Supervision Act

The stated purpose of the Clearing 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.³⁰ Section 805(a)(2) of the Clearing Supervision Act³¹ also authorizes the Commission to prescribe risk management standards for the payment, clearing and settlement activities of designated clearing entities, like OCC, for which the Commission is the supervisory agency. Section 805(b) of the Clearing Supervision Act³² states that the objectives and principles for 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.

OCC believes that the proposed changes described herein would enhance its margin methodology in a manner consistent with the objectives and principles of Section 805(b) of the

³⁰ 12 U.S.C. 5461(b).

³¹ 12 U.S.C. 5464(a)(2).

³² 12 U.S.C. 5464(b).

Clearing Supervision Act³³ and the risk management standards adopted by the Commission in Rule 17Ad-22 under the Act for the reasons set forth below.³⁴

OCC believes the proposed changes are consistent with the objectives and principles of Section 805(b) of the Clearing Supervision Act³⁵ in that they would promote robust risk management and safety and soundness while reducing systemic risks and supporting the stability of the broader financial system. As discussed above, the volatility changes forecasted by OCC's current Implied Volatility Model are extremely sensitive to large, sudden spikes in volatility, which can at times result in over reactive margin requirements that OCC believes are unreasonable and procyclical. Such sudden, unreasonable increases in margin requirements may stress certain Clearing Members' ability to obtain liquidity to meet those requirements, particularly in periods of extreme volatility, and could result in a Clearing Member being delayed in meeting, or ultimately failing to meet, its daily settlement obligations to OCC. OCC notes that the proposed changes are expected to produce margin requirements that are very similar to those generated using OCC's existing model during quiet, less volatile market periods. The proposed changes would, however, result in a more measured initial response to increases in the volatility of volatility with margin requirements that may remain elevated for a longer period after the shock subsides than experienced under OCC's current model. The proposed changes

³³

Id.

³⁴

17 CFR 240.17Ad-22. See Securities Exchange Act Release Nos. 68080 (October 22, 2012), 77 FR 66220 (November 2, 2012) (S7-08-11) ("Clearing Agency Standards"); 78961 (September 28, 2016), 81 FR 70786 (October 13, 2016) (S7-03-14) ("Standards for Covered Clearing Agencies"). The Standards for Covered Clearing Agencies became effective on December 12, 2016. OCC is a "covered clearing agency" as defined in Rule 17Ad-22(a)(5) and therefore must comply with the requirements of Rule 17Ad-22(e).

³⁵

12 U.S.C. 5464(b).

would therefore reduce the likelihood that OCC's Implied Volatility Model would produce extreme, over reactive margin requirements by reducing procyclicality in OCC's margin methodology and ensuring more stable and appropriate changes in margin requirements across volatile market periods while continuing to provide for robust management of the risks presented by the implied volatility of OCC's cleared options products. Accordingly, OCC believes the proposed changes would promote robust risk management and safety and soundness while reducing systemic risks and supporting the stability of the broader financial system.

Rules 17Ad-22(e)(6)(i) and (v)³⁶ require a covered clearing agency that provides central counterparty services to 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 (1) considers, and produces margin levels commensurate with, the risks and particular attributes of each relevant product, portfolio, and market and (2) uses an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products. As noted above, OCC's current model for implied volatility demonstrates extreme sensitivity to sudden spikes in volatility, which can at times result in over reactive margin requirements that OCC believes are unreasonable and procyclical. The proposed changes are designed to reduce the oversensitivity of the model and produce margin requirements that are commensurate with the risks presented during periods of sudden, extreme volatility. The proposed model enhancements are expected to produce margin requirements that are very similar to those generated using OCC's existing model during quiet, less volatile market periods; however, the proposed changes would result in a more measured

³⁶ 17 CFR 240.17Ad-2(e)(6)(i) and (v).

initial response to increases in the volatility of volatility with margin requirements that may remain elevated for a longer period of time after the shock subsides than experienced under OCC's current model. The proposed changes are designed to reduce procyclicality in OCC's margin methodology and ensure more stable changes in margin requirements across volatile market periods while continuing to capture changes in implied volatility and produce margin requirements that are commensurate with the risks presented by OCC's cleared options. As a result, OCC believes that the proposed changes are reasonably designed to consider, and produce margin levels commensurate with, the risk presented by the implied volatility of OCC's cleared options and use an appropriate method for measuring credit exposure that accounts for this product risk factor (i.e., implied volatility) in a manner consistent with Rules 17Ad-22(e)(6)(i) and (v).³⁷

Item 11. Exhibits

Exhibit 1A. Completed Notice of Advance Notice for publication in the Federal Register.

Exhibit 3. Confidential Data and Analysis.

Exhibit 5. Margins Methodology – Chapter 29.

CONFIDENTIAL TREATMENT IS REQUESTED FOR EXHIBIT 5

PURSUANT TO SEC RULE 24b-2

³⁷

Id.

SIGNATURES

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

THE OPTIONS CLEARING CORPORATION

By: _____

Justin W. Byrne
Vice President, Regulatory Filings

EXHIBIT 1A

SECURITIES AND EXCHANGE COMMISSION

(Release No. 34-[_____]; File No. SR-OCC-2018-804)

October __, 2018

Self-Regulatory Organizations; The Options Clearing Corporation; Notice of Filing of Advance Notice Related to The Options Clearing Corporation's Margin Methodology for Incorporating Variations in Implied Volatility

Pursuant to Section 806(e)(1) of Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act, entitled Payment, Clearing and Settlement Supervision Act of 2010 ("Clearing Supervision Act")¹ and Rule 19b-4(n)(1)(i)² of the Securities Exchange Act of 1934 ("Exchange Act" or "Act"),³ notice is hereby given that on October 22, 2018, The Options Clearing Corporation ("OCC") filed with the Securities and Exchange Commission ("Commission") an advance notice 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 advance notice from interested persons.

I. Clearing Agency's Statement of the Terms of Substance of the Advance Notice

This advance notice is filed in connection with proposed changes to enhance OCC's model for incorporating variations in implied volatility within OCC's margin methodology ("Implied Volatility Model"), the System for Theoretical Analysis and Numerical Simulations ("STANS").⁴ The proposed changes to OCC's Margins

¹ 12 U.S.C. 5465(e)(1).

² 17 CFR 240.19b-4(n)(1)(i).

³ 15 U.S.C. 78a et seq.

⁴ OCC also has filed a proposed rule change with the Commission in connection with the proposed changes. See SR-OCC-2018-014.

Methodology document are contained in confidential Exhibit 5 of the filing. Material proposed to be added is marked by underlining and material proposed to be deleted is marked by strikethrough text. The proposed changes are described in detail in Item 10 below. The proposed changes do not require any changes to the text of OCC's By-Laws or Rules. The advance notice is available on OCC's website at <https://www.theocc.com/about/publications/bylaws.jsp>. All terms with initial capitalization that are not otherwise defined herein have the same meaning as set forth in the OCC By-Laws and Rules.⁵

II. Clearing Agency's Statement of the Purpose of, and Statutory Basis for, the Advance Notice

In its filing with the Commission, OCC included statements concerning the purpose of and basis for the advance notice and discussed any comments it received on the advance notice. 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 and B below, of the most significant aspects of these statements.

(A) Clearing Agency's Statement on Comments on the Advance Notice 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. OCC will notify the Commission of any written comments received by OCC.

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

Description of the Proposed Change

⁵ OCC's By-Laws and Rules can be found on OCC's public website: <http://optionsclearing.com/about/publications/bylaws.jsp>.

Background

STANS Overview

STANS is OCC's proprietary risk management system for calculating Clearing Member margin requirements.⁶ The STANS methodology utilizes large-scale Monte Carlo simulations to forecast price and volatility movements in determining a Clearing Member's margin requirement.⁷ STANS margin requirements are calculated at the portfolio level of Clearing Member accounts with positions in marginable securities and consists of an estimate of two primary components: a base component and a stress test add-on component. The base component is an estimate of a 99% expected shortfall⁸ over a two-day time horizon. The concentration/dependence stress test charge is obtained by considering increases in the expected margin shortfall for an account that would occur due to (i) market movements that are especially large and/or in which certain risk factors would exhibit perfect or zero correlations rather than correlations otherwise estimated using historical data or (ii) extreme and adverse idiosyncratic movements for individual risk factors to which the account is particularly exposed. The STANS methodology is used to measure the exposure of portfolios of options and futures cleared by OCC and

⁶ 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/>.

⁷ See OCC Rule 601.

⁸ The expected shortfall component is established as the estimated average of potential losses higher than the 99% value at risk threshold. The term "value at risk" or "VaR" refers to a statistical technique that, generally speaking, is used in risk management to measure the potential risk of loss for a given set of assets over a particular time horizon.

cash instruments in margin collateral.⁹

The econometric models underlying STANS currently incorporate a number of risk factors. A “risk factor” within OCC’s margin system is defined as a product or attribute whose historical data is used to estimate and simulate the risk for an associated product. The majority of risk factors utilized in the STANS methodology are the returns on individual equity securities; however, a number of other risk factors may be considered, including, among other things, returns on implied volatility risk factors.¹⁰

Current Implied Volatility Model in STANS

Generally speaking, the implied volatility of an option is a measure of the expected future volatility of the option’s underlying security at expiration, which is reflected in the current option premium in the market. Using the Black-Scholes options pricing model, the implied volatility is the standard deviation of the underlying asset price necessary to arrive at the market price of an option of a given strike, time to maturity, underlying asset price and the current risk-free rate. In effect, the implied

⁹ OCC notes that, pursuant to OCC Rule 601(e)(1), OCC also calculates initial margin requirements for segregated futures accounts using the Standard Portfolio Analysis of Risk Margin Calculation System (“SPAN”). No changes are proposed to OCC’s use of SPAN because the proposed changes do not concern futures. See Securities Exchange Act Release No. 72331 (June 5, 2014), 79 FR 33607 (June 11, 2014) (SR-OCC-2014-13).

¹⁰ In December 2015, the Commission approved a proposed rule change and issued a Notice of No Objection to an advance notice filing by OCC to its modify margin methodology by more broadly incorporating variations in implied volatility within STANS. See Securities Exchange Act Release No. 76781 (December 28, 2015), 81 FR 135 (January 4, 2016) (SR-OCC-2015-016) and Securities Exchange Act Release No. 76548 (December 3, 2015), 80 FR 76602 (December 9, 2015) (SR-OCC-2015-804). As discussed further below, implied volatility risk factors in STANS are a set of chosen volatility pivot points per product, depending on the tenor of the option.

volatility is responsible for that portion of the premium that cannot be explained by the then-current intrinsic value of the option (*i.e.*, the difference between the price of the underlying and the exercise price of the option), discounted to reflect its time value.

OCC considers variations in implied volatility within STANS to ensure that the anticipated cost of liquidating options positions in an account recognizes the possibility that implied volatility could change during the two-business day liquidation time horizon and lead to corresponding changes in the market prices of the options.

OCC models the variations in implied volatility used to re-price options within STANS for substantially all option contracts¹¹ available to be cleared by OCC that have a residual tenor¹² of less than three years (“Shorter Tenor Options”).¹³ To address variations in implied volatility, OCC models a volatility surface¹⁴ for Shorter Tenor Options by incorporating into the econometric models underlying STANS certain risk

¹¹ OCC’s Implied Volatility Model excludes: (i) binary options, (ii) options on commodity futures, (iii) options on U.S. Treasury securities, and (iv) Asians and Cliquets. These relatively new products were introduced as the implied volatility margin methodology changes were in the process of being completed by OCC, and OCC had *de minimus* open interest in those options. OCC therefore did not believe there was a substantive risk if those products were excluded from the implied volatility model. See id.

¹² The “tenor” of an option is the amount of time remaining to its expiration.

¹³ OCC also incorporates variations in implied volatility as risk factors for certain options with residual tenors of at least three years (“Longer Tenor Options”); however, the proposed changes described herein would not apply to OCC’s model for Longer Tenor Options. See Securities Exchange Act Release Nos. 68434 (December 14, 2012), 77 FR 57602 (December 19, 2012) (SR-OCC-2012-14); 70709 (October 18, 2013), 78 FR 63267 (October 23, 2013) (SR-OCC-2013-16).

¹⁴ The term “volatility surface” refers to a three-dimensional graphed surface that represents the implied volatility for possible tenors of the option and the implied volatility of the option over those tenors for the possible levels of “moneyness” of the option. The term “moneyness” refers to the relationship between the current market price of the underlying interest and the exercise price.

factors (i.e., implied volatility pivot points) based on a range of tenors and option deltas.¹⁵ Currently, these implied volatility pivot points consist of three tenors of one month, three months and one year, and three deltas of 0.25, 0.5, and 0.75, resulting in nine implied volatility risk factors. These pivot points are chosen such that their combination allows the model to capture changes in level, skew, convexity and term structure of the implied volatility surface. OCC uses a GARCH model¹⁶ to forecast the volatility for each implied volatility risk factor at the nine pivot points.¹⁷ For each Shorter Tenor Option in the account of a Clearing Member, changes in its implied volatility are simulated using forecasts obtained from daily implied volatility market data according to the corresponding pivot point and the price of the option is computed to determine the amount of profit or loss in the account under the particular STANS price simulation. Additionally, OCC uses simulated closing prices for the assets underlying the options in the account of a Clearing Member that are scheduled to expire within the liquidation time horizon of two business days to compute the options' intrinsic value and uses those values to help calculate the profit or loss in the account.¹⁸

¹⁵ The “delta” of an option represents the sensitivity of the option price with respect to the price of the underlying security.

¹⁶ The acronym “GARCH” refers to an econometric model that can be used to estimate volatility based on historical data. See generally Tim Bollerslev, “Generalized Autoregressive Conditional Heteroskedasticity,” Journal of Econometrics, 31(3), 307-327 (1986).

¹⁷ STANS relies on 10,000 price simulation scenarios that are based generally on a historical data period of 500 business days, which are updated daily to keep model results from becoming stale.

¹⁸ For such Shorter Tenor Options that are scheduled to expire on the open of the market rather than the close, OCC uses the relevant opening price for the underlying assets.

OCC performed a number of analyses of its current Implied Volatility Model and to support development of the proposed model changes, including backtesting and impact analysis of the proposed model enhancements as well as comparison of OCC's current model performance against certain industry benchmarks.¹⁹ OCC's analysis demonstrated that one attribute of the current model is that the volatility changes forecasted by the GARCH model are extremely sensitive to sudden spikes in volatility, which can at times result in over reactive margin requirements that OCC believes are unreasonable and procyclical.²⁰

For example, on February 5, 2018, the market experienced extreme levels of volatility, with the Cboe Volatility Index ("VIX")²¹ moving from 17% up to 37%, representing a relative move of 116% (which is the largest relative daily jump in the history of the index). Under OCC's current model, OCC observed that the GARCH forecast SPX volatility for at-the-money implied volatility for a one-month tenor was approximately 4 times larger than the comparable market index, the Cboe VVIX Index, which is a volatility of volatility measure in that it represents the expected volatility of the 30-day forward price of the VIX. As a result, aggregated STANS margins jumped more than 80% overnight due to the GARCH model and margins for certain individual

¹⁹ OCC has provided results of these analyses to the Commission in confidential Exhibit 3 of the filing.

²⁰ A quality that is positively correlated with the overall state of the market is deemed to be "procyclical." For example, procyclicality may be evidenced by increasing margin requirements in times of stressed market conditions and low margin requirements when markets are calm. Hence, anti-procyclical features in a model are measures intended to prevent risk-based models from fluctuating too drastically in response to changing market conditions.

²¹ The VIX is an index designed to measure the 30-day expected volatility of the Standard & Poor's 500 index ("SPX").

Clearing Members increased by a factor of 10.²²

In addition, volatility tends to be mean reverting; that is, volatility will quickly return to its long-run mean or average from an elevated level, so it is unlikely that volatility would continue to make big jumps immediately following a drastic increase. For example, based on the VIX history from 1990-2018, VIX levels jumped above 35 (about the level observed on February 5, 2018) for approximately 293 days (i.e., 4% of the sample period). From the level of 35 or higher, the range of daily change on the VIX index was between 27% and -35%. However, the largest daily changes on one-month at-the-money SPX implied volatility forecasted by OCC's current GARCH model on February 5, 2018, were far in excess of those historical realized amounts, which points to extreme procyclicality issues that need to be addressed in the current model.²³

OCC also performed backtesting of the current model and proposed model enhancements to evaluate and compare the performance of each model from a margin coverage perspective. OCC's backtesting demonstrated that exceedance counts²⁴ and overall coverage levels over the backtesting period using the proposed model enhancements were substantially similar to the results obtained from the current

²² For example, under the current model the total margin requirement calculated for one particular Clearing Member jumped from \$120 million on February 2, 2018, to \$1.78 billion on February 5, 2018, representing a 14 times increase in the requirement.

²³ For example, OCC's current model resulted in a maximum variation of 1100% in the one-month at-the-money SPX implied volatility pivot when compared with a maximum 35% move in the VIX for VIX levels greater than 30. Additionally, the model-generated number is significantly higher than 116%, which is the largest realized historical move in the VIX that occurred on February 5, 2018.

²⁴ Exceedance counts here refer to instances where the actual loss on portfolio over the liquidation period of two business days exceeds the margin amounts generated by the model.

production model. As a result, OCC believes the current model tends to be overly conservative/reactive, and the proposed model is more appropriately commensurate with the risks presented by changes in implied volatility.

OCC believes that the sudden, extreme and unreasonable increases in margin requirements that may be experienced under its current Implied Volatility Model may stress certain Clearing Members' ability to obtain sufficient liquidity to meet these significantly increased margin requirements, particularly in periods of sudden, extreme volatility. OCC therefore is proposing changes to its Implied Volatility Model to limit procyclicality and produce margin requirements that OCC believes are more reasonable and are also commensurate with the risks presented by its cleared options products.

Proposed Changes

OCC proposes to modify its Implied Volatility Model by introducing an exponentially weighted moving average²⁵ for the daily forecasted volatility for implied volatility risk factors calculated using the GARCH model. Specifically, when forecasting the volatility for each implied volatility risk factor at each of the nine pivot points, OCC would use an exponentially weighted moving average of forecasted volatilities over a specified look-back period rather than using raw daily forecasted volatilities. The exponentially weighted moving average would involve the selection of a look-back period over which the data would be averaged and a decay factor (or weighting factor), which is a positive number between zero and one, that represents the weighting factor for

²⁵ An exponentially weighted moving average is a statistical method that averages data in a way that gives more weight to the most recent observations using an exponential scheme.

the most recent data point.²⁶ The look-back period and decay factor would be model parameters subject to monthly review,²⁷ along with other model parameters that are reviewed by OCC's Model Risk Working Group ("MRWG")²⁸ in accordance with OCC's internal procedure for margin model parameter review and sensitivity analysis, and these parameters would be subject to change upon approval of the MRWG.

The proposed changes are intended to reduce the oversensitivity of the current Implied Volatility Model to large, sudden shocks in market volatility and therefore result in margin requirements that are more stable and that remain commensurate with the risks presented during periods of sudden, extreme volatility.²⁹ The proposed changes are expected to produce margin requirements that are very similar to those generated using OCC's existing model during quiet, less volatile market periods; however, during more volatile periods, the proposed changes would result in a more measured initial response to

²⁶ The lower the number the more weight is attributed to the more recent data (e.g., if the value is set to one, the exponentially weighted moving average becomes a simple average).

²⁷ OCC initially would use a look-back period of 22 days and an initial decay factor of 0.94 for the exponentially weighted moving average. OCC believes the 22-day look-back is an appropriate initial parameter setting as it would allow for close to monthly updates of the GARCH parameters used in the model. The decay factor value of 0.94 was selected based on the factor initially proposed by JP Morgan's RiskMetrics methodology (see JPMorgan/Reuters, 1996. "RiskMetrics - Technical Document", Fourth edition).

²⁸ The MRWG is responsible for assisting OCC's Management Committee in overseeing and governing OCC's model-related risk issues and includes representatives from OCC's Financial Risk Management department, Quantitative Risk Management department, Model Validation Group, and Enterprise Risk Management department.

²⁹ As noted above, OCC has performed analysis of the impact of the proposed changes, and OCC's backtesting of the proposed model demonstrates comparable exceedance counts and coverage levels to the current model during the most recent volatile period.

increases in the volatility of volatility with margin requirements that may remain elevated for a longer period of time after the shock subsides than experienced under OCC's current model. The proposed changes are intended to reduce procyclicality in OCC's margin methodology across volatile market periods while continuing to capture changes in implied volatility and produce margin requirements that are commensurate with the risks presented by OCC's cleared options products. The proposed changes therefore would reduce the risk that a sudden, extreme increase in margin requirements may stress Clearing Members' ability to obtain liquidity to meet such increased requirements, particularly in periods of extreme volatility.

Implementation Timeframe

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

Anticipated Effect on, and Management of, Risk

The volatility changes forecasted by OCC's current Implied Volatility Model are extremely sensitive to large, sudden spikes in volatility, which can at times result in over reactive margin requirements that OCC believes are unreasonable and procyclical (for the reasons set forth above). Such sudden, unreasonable increases in margin requirements may stress certain Clearing Members' ability to obtain liquidity to meet those requirements, particularly in periods of extreme volatility, and could result in a Clearing Member being delayed in meeting, or ultimately failing to meet, its daily settlement obligations to OCC. OCC notes that the proposed changes are expected to produce

margin requirements that are very similar to those generated using OCC's existing model during quiet, less volatile market periods. The proposed changes would, however, result in a more measured initial response to increases in the volatility of volatility with margin requirements that may remain elevated for a longer period after the shock subsides than experienced under OCC's current model. The proposed changes would therefore reduce the likelihood that OCC's Implied Volatility Model would produce extreme, over reactive margin requirements that could strain the ability of certain Clearing Members to meet their daily margin requirements at OCC by reducing procyclicality in OCC's margin methodology and ensuring more stable and appropriate changes in margin requirements across volatile market periods while continuing to capture changes in implied volatility and produce margin requirements that are commensurate with the risks presented.

Consistency with the Payment, Clearing and Settlement Supervision Act

The stated purpose of the Clearing 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.³⁰

Section 805(a)(2) of the Clearing Supervision Act³¹ also authorizes the Commission to prescribe risk management standards for the payment, clearing and settlement activities of designated clearing entities, like OCC, for which the Commission is the supervisory agency. Section 805(b) of the Clearing Supervision Act³² states that the objectives and

³⁰ 12 U.S.C. 5461(b).

³¹ 12 U.S.C. 5464(a)(2).

³² 12 U.S.C. 5464(b).

principles for 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.

OCC believes that the proposed changes described herein would enhance its margin methodology in a manner consistent with the objectives and principles of Section 805(b) of the Clearing Supervision Act³³ and the risk management standards adopted by the Commission in Rule 17Ad-22 under the Act for the reasons set forth below.³⁴

OCC believes the proposed changes are consistent with the objectives and principles of Section 805(b) of the Clearing Supervision Act³⁵ in that they would promote robust risk management and safety and soundness while reducing systemic risks and supporting the stability of the broader financial system. As discussed above, the volatility changes forecasted by OCC's current Implied Volatility Model are extremely sensitive to large, sudden spikes in volatility, which can at times result in over reactive margin requirements that OCC believes are unreasonable and procyclical. Such sudden, unreasonable increases in margin requirements may stress certain Clearing Members'

³³ Id.

³⁴ 17 CFR 240.17Ad-22. See Securities Exchange Act Release Nos. 68080 (October 22, 2012), 77 FR 66220 (November 2, 2012) (S7-08-11) ("Clearing Agency Standards"); 78961 (September 28, 2016), 81 FR 70786 (October 13, 2016) (S7-03-14) ("Standards for Covered Clearing Agencies"). The Standards for Covered Clearing Agencies became effective on December 12, 2016. OCC is a "covered clearing agency" as defined in Rule 17Ad-22(a)(5) and therefore must comply with the requirements of Rule 17Ad-22(e).

³⁵ 12 U.S.C. 5464(b).

ability to obtain liquidity to meet those requirements, particularly in periods of extreme volatility, and could result in a Clearing Member being delayed in meeting, or ultimately failing to meet, its daily settlement obligations to OCC. OCC notes that the proposed changes are expected to produce margin requirements that are very similar to those generated using OCC's existing model during quiet, less volatile market periods. The proposed changes would, however, result in a more measured initial response to increases in the volatility of volatility with margin requirements that may remain elevated for a longer period after the shock subsides than experienced under OCC's current model. The proposed changes would therefore reduce the likelihood that OCC's Implied Volatility Model would produce extreme, over reactive margin requirements by reducing procyclicality in OCC's margin methodology and ensuring more stable and appropriate changes in margin requirements across volatile market periods while continuing to provide for robust management of the risks presented by the implied volatility of OCC's cleared options products. Accordingly, OCC believes the proposed changes would promote robust risk management and safety and soundness while reducing systemic risks and supporting the stability of the broader financial system.

Rules 17Ad-22(e)(6)(i) and (v)³⁶ require a covered clearing agency that provides central counterparty services to 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 (1) considers, and produces margin levels commensurate with, the risks and particular attributes of each relevant product, portfolio, and market and (2) uses an appropriate method for measuring credit

³⁶ 17 CFR 240.17Ad-2(e)(6)(i) and (v).

exposure that accounts for relevant product risk factors and portfolio effects across products. As noted above, OCC's current model for implied volatility demonstrates extreme sensitivity to sudden spikes in volatility, which can at times result in over reactive margin requirements that OCC believes are unreasonable and procyclical. The proposed changes are designed to reduce the oversensitivity of the model and produce margin requirements that are commensurate with the risks presented during periods of sudden, extreme volatility. The proposed model enhancements are expected to produce margin requirements that are very similar to those generated using OCC's existing model during quiet, less volatile market periods; however, the proposed changes would result in a more measured initial response to increases in the volatility of volatility with margin requirements that may remain elevated for a longer period of time after the shock subsides than experienced under OCC's current model. The proposed changes are designed to reduce procyclicality in OCC's margin methodology and ensure more stable changes in margin requirements across volatile market periods while continuing to capture changes in implied volatility and produce margin requirements that are commensurate with the risks presented by OCC's cleared options. As a result, OCC believes that the proposed changes are reasonably designed to consider, and produce margin levels commensurate with, the risk presented by the implied volatility of OCC's cleared options and use an appropriate method for measuring credit exposure that accounts for this product risk factor (i.e., implied volatility) in a manner consistent with Rules 17Ad-22(e)(6)(i) and (v).³⁷

³⁷Id.

III. Date of Effectiveness of the Advance Notice and Timing for Commission Action

The proposed change may be implemented if the Commission does not object to the proposed change within 60 days of the later of (i) the date the proposed change was filed with the Commission or (ii) the date any additional information requested by the Commission is received. OCC shall not implement the proposed change if the Commission has any objection to the proposed change.

The Commission may extend the period for review by an additional 60 days if the proposed change raises novel or complex issues, subject to the Commission providing the clearing agency with prompt written notice of the extension. A proposed change may be implemented in less than 60 days from the date the advance notice is filed, or the date further information requested by the Commission is received, if the Commission notifies the clearing agency in writing that it does not object to the proposed change and authorizes the clearing agency to implement the proposed change on an earlier date, subject to any conditions imposed by the Commission.

OCC shall post notice on its website of proposed changes that are implemented.

The proposal shall not take effect until all regulatory actions required with respect to the proposal are completed.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing, including whether the advance notice is consistent with the Clearing Supervision 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-2018-804 on the subject line.

Paper Comments:

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

All submissions should refer to File Number SR-OCC-2018-804. 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 advance notice that are filed with the Commission, and all written communications relating to the advance notice 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 the filing also will be available for inspection and copying at the principal office of OCC and on OCC's website at <https://www.theocc.com/about/publications/bylaws.jsp>.

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

All submissions should refer to File Number SR-OCC-2018-804 and should be submitted on or before [insert date 21 days from publication in the Federal Register].

By the Commission.

Eduardo A. Aleman
Assistant Secretary

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2

Redacted in its entirety pursuant to Commission Rule 24b-2