

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34-52975; File No. SR-OCC-2004-20)

December 19, 2005

Self-Regulatory Organizations; The Options Clearing Corporation; Notice of Filing of a Proposed Rule Change Relating to a New Risk Management Methodology

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"),<sup>1</sup> notice is hereby given that on November 15, 2004, The Options Clearing Corporation ("OCC") filed with the Securities and Exchange Commission ("Commission"), and on May 10, 2005, and December 13, 2005, amended the proposed rule change as described in Items I, II, and III below, which items have been prepared primarily by OCC. The Commission is publishing this notice to solicit comments on the proposed rule change, as amended, from interested persons.

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

The purpose of the proposed rule change is to reflect the implementation of a new risk management methodology that OCC would use to determine the amount of margin assets required to be deposited by a clearing member with respect to each account.

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

In its filing with the Commission, OCC included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. OCC has prepared summaries, set forth in sections (A), (B), and (C) below, of the most significant aspects of such statements.<sup>2</sup>

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<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> The Commission has modified parts of these statements.

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

The proposed new risk management methodology, the System for Theoretical Analysis and Numerical Simulations, will enhance OCC's ability to measure the risk of the portfolios in a clearing member's accounts more accurately and therefore, will enable OCC to calculate margin requirements more precisely.

1. The Existing Risk Management Methodology: The Theoretical Intermarket Margining System

Currently, OCC applies the Theoretical Intermarket Margining System ("TIMS") for the calculation of clearing members' daily minimum margin requirements, for the determination of the size of OCC's clearing fund, for the computation of additional margin requirements, and for assessing risk in the Hedge Program. TIMS is a univariate risk management methodology that evaluates historical data of approximately 3,000 underlying assets to identify the expected gain or loss on positions that would occur at ten price points for equity instruments and at twenty price points for non-equity instruments within a range of likely price movements of each underlying interest. TIMS requires that options, futures, and stock loan and borrow positions that have the same underlying interest be categorized into classes and that classes be categorized into unique product groups consisting of one or more related classes. TIMS calculates the total risk of each clearing member account as the sum of the worst scenario outcomes of each product group in the account. TIMS recognizes offsetting positions within each clearing member account but only to the extent that the offsetting positions are in the same product group.

Although TIMS has consistently produced sufficient base margin requirements, this methodology has a number of shortcomings that have risk-relevant consequences. Among these are the following:

- a. Because TIMS requires that each class group belong to only one product group, any offsetting effects among instruments in different product groups are ignored when margin requirements are calculated. This inherent lack of methodological flexibility tends to overestimate portfolio risk thereby imposing unnecessarily high margin requirements on clearing members.
- b. TIMS assumes perfect correlation of price movements for underlying interests belonging to the same product group. As a result, margin requirements for unhedged product group portfolios are often overstated, and margin requirements for hedged product group portfolios are often understated.
- c. TIMS calculates the total account risk as the sum of the worst scenario outcomes of all product groups. In that sense, TIMS does not measure the price risk of the total portfolio; rather it measures the price risk of the various subportfolios as represented by product groups. Since portfolio risk can never be larger than the sum of the portfolio components' risks, but could be smaller to the extent of any offsetting relationships, TIMS's aggregation of product group risks results in an upwardly biased estimation of a clearing member's portfolio risk.
- d. TIMS's aggregation methodology often implies an economically impossible correlation (positive or negative) between product groups in an account. Suppose, for example, that an account has a (delta) long position in the broad-based index group and a (delta) short position in the individual equities group. By aggregating

the risks in these two groups, TIMS implies that a decline in all broad-based indices could exist simultaneously with a rise in all individual equities – an impossible economic scenario.

- e. In analyzing historical data, TIMS focuses on a range of potential price movements. However, covering 99% of all potential price movements does not result in coverage of 99% of all profit/loss outcomes, which is the desired goal. Using the TIMS method, some accounts may have margin requirements covering 98% of profit/loss outcomes while others are covered at 99.9%. These small statistical differences can have large dollar implications.

## 2. The New Risk Management Methodology: The System for Theoretical Analysis and Numerical Simulations

The System for Theoretical Analysis and Numerical Simulations (“STANS”) preserves TIMS’s analysis of the historical price movements of underlying assets and of the correlation of such price movements among underlying assets. However, STANS evaluates price risk on a portfolio level and more accurately evaluates the correspondence of price movements among underlying assets and therefore, is able to calculate margin requirements more accurately than TIMS.

STANS is a multivariate risk management methodology that considers the range of likely price movements for each of the approximately 8,000 assets underlying OCC options. STANS measures the historical correlations among the price movements of the different assets. STANS generates simulated returns for all underlying assets based on this historical data, measures the historical price volatility of each of these underlying assets, and evaluates the relationship structure of the entire portfolio. STANS reduces the imprecision produced by TIMS in the following ways:

- a. Because STANS does not use TIMS's product group concept, STANS recognizes the relationship of each asset class to all other asset classes rather than recognizing only the relationships among asset classes in the same product group. Therefore, STANS will more accurately identify offsetting positions, and margin requirements will be adjusted downward accordingly.
- b. STANS identifies a more realistic correlative relationship among underlying assets than TIMS. STANS does not exclude opposite moves for positively correlated assets. In contrast, price scenarios within the TIMS methodology are all concordant.
- c. Because STANS eliminates product groups, it is able to evaluate the interrelationships among all instruments in a clearing member's portfolio rather than only within a product group. STANS's estimates of portfolio risk are neither upwardly nor downwardly biased.
- d. STANS generates a distribution of 10,000 potential profit/loss outcomes for the entire portfolio rather than simply a range of potential price movements. As a result, margin requirements are more precise for every account, and therefore, STANS ensures that all accounts will have coverage for predicted liquidation outcomes at the selected confidence levels.

These characteristics will improve the accuracy of margin calculations and as a result, will improve the financial stability of OCC and the derivatives markets. In addition, STANS allows for easy integration of various types of non-equity products, such as fixed-income related products and commodities. The implementation of STANS thus facilitates joint risk assessment initiatives that can produce clearing and settlement efficiencies beneficial to investors.

To reflect the implementation of STANS in OCC's By-Laws and Rules, OCC proposes to replace most of Rule 601 and to eliminate Rule 602. Proposed new Rule 601 is conceptual rather than attempting a mechanical, step-wise description of margin requirement calculations. It is therefore more concise than the existing Rule 601. OCC presently calculates margin requirements for equity and non-equity products separately with Rule 601 being applicable to equities and Rule 602 being applicable to non-equities. STANS will calculate margin on equity and non-equity products in one integrated set of calculations. Thus, the calculation of margin requirements for all products will be as set forth in new Rule 601. OCC proposes to delete cross-references to Rule 602 as appropriate throughout the Rules.

Proposed Rule 601(c) contains a basic conceptual description of how, pursuant to STANS, OCC would determine the amount of margin assets a clearing member is required to deposit with OCC. Proposed Rule 601(c) uses the concepts of "margin requirement," "margin assets," "marking prices" and "minimum expected liquidating value" to aid in the description of STANS and margin requirement calculations. Definitions of each of these terms have been included in the proposed amendments to Article I of the By-Laws or Rule 601 as appropriate. OCC proposes to delete terms that are defined in the existing Rule 601(b) that are relevant to TIMS and not relevant to STANS. For example, the terms "premium margin" and "risk margin" are no longer used. The "margin requirement" as determined using STANS is at least equal to the "minimum expected liquidating value" of the account (if such expected value is less than zero). The "minimum expected liquidating value" may be conceptualized as (i) the current net asset value of positions in the account (i.e., what used to be called "premium margin") plus (ii) an additional amount sufficient to cover the impact of the largest expected adverse market movement (i.e., what used to be called "risk margin"). Because STANS does not actually derive

the minimum expected liquidating value in this additive way and because STANS is designed to project expected values for margin assets whose prices are not referred to as "premiums," the old terminology was deemed inappropriate.

The proposed definition of "marking price" is quite flexible and allows OCC to use its discretion in determining marking prices and to use different marking prices for the same asset or liability depending upon the purpose for which a marking price is needed. An example of where the latter situation may occur is in the case of stock loan and borrow positions. Marking prices in the stock lending market are determined by the conventions of that market, and OCC would generally observe the prices used in that market for purposes of determining the daily marks passed through OCC between the lender and the borrower. OCC might, however, have a different view of the correct marking price to use for purposes of calculating the risk of those positions in STANS.

The purpose of proposed Rule 601(e), "Exclusions from Margin Requirement Calculation," is to identify in one place those positions that are excluded from margin requirement calculations altogether. Existing Rule 601(e) indicates that exercised or expired positions in cleared contracts or stock loan and borrow positions are excluded from margin requirement calculations. Rule 601(a) indicates that short positions in option contracts or BOUNDS for which a deposit in lieu of margin has been made are excluded from margin requirement calculations. Rule 614 indicates that long positions in cleared securities that have been pledged to a pledgee are excluded from margin requirement calculations. By definition, margin-ineligible stock loan positions and stock borrow positions are excluded from margin requirement calculations. Consolidating these provisions in one place facilitates understanding.

The release of margin assets to clearing members as described in existing Rule 601(e) has been revised to be clearer and more concise and is now covered in Rule 601(f). The existing rule contains a somewhat artificial description of margin assets being released under a position-specific determination. Consistent with the more integrated approach of the STANS methodology, proposed Rule 601(f) simply states that OCC will permit the release of margin with respect to a clearing member's account if the amount of margin assets in a clearing member's account exceeds the amount of margin assets required to be in the account pursuant to Rule 601 and if any other obligations of the clearing member to OCC have been satisfied.

Existing Rule 2111(b) and Rule 2409(b) envision that a provisional margin requirement will be calculated with respect to cross-rate foreign currency options and FX Index Options. The provisional margin requirement was intended to ensure that OCC would not release premiums due to an account of a clearing member in a non-U.S. time zone at a time when it was holding insufficient margin to cover a premium debit in a later time zone and/or increased margin requirements resulting from activity in cross-rate and foreign currency index options since the last U.S. Dollar settlement. OCC proposes to eliminate this provisional margin requirement and will instead simply hold any amounts otherwise payable to a clearing member in a different time zone until after the next regular settlement time in the U.S. Experience has shown that clearing members often instruct OCC to credit any cash from these early settlements to their OCC accounts instead of releasing it, and the amounts involved do not justify the costs of administering the more cumbersome procedure of calculating provisional margin requirements.

Since June 2003, OCC has been providing information to representatives of the Office of Prudential Supervision and Risk Analysis of the Division of Market Regulation ("Division") on the statistical and operational features of the STANS methodology. To become comfortable with

the STANS methodology, the Division requested that OCC produce various graphs, simulations, and spreadsheets evidencing STANS's ability to calculate margin requirements more accurately than TIMS. OCC believes that it has responded to all of the Division's inquiries to date and has provided sufficient information for the Division to reach a high degree of comfort with the STANS methodology. The staff of OCC remains available to address any further questions that the Division staff may have.

OCC expects that the amount of margin it will collect under STANS will be significantly less than the amount of margin it currently collects under TIMS. This is largely due to the fact that STANS more accurately identifies offsetting positions than TIMS. There would also be a corresponding reduction in the amount of clearing fund collected by OCC under STANS because under Chapter X, "Clearing Fund Contributions," clearing fund is calculated as a percentage of margin. The Division requested that OCC amend its rules to increase the percentage used to calculate the clearing fund because the Division believes that for the time being the clearing fund contribution should not be significantly reduced. As a result, OCC filed an amendment to the proposed rule change to amend Chapter X, Rule 1001, "Amount of Contribution," to increase the minimum percentage in the clearing fund calculation from 5 percent to 6 percent of average aggregate margin.

OCC believes that the proposed rule change is consistent with the purposes and requirements of Section 17A of the Act because it is designed to assure the safeguarding of securities and funds which are in the custody or control of OCC, to reduce unnecessary costs to investors by facilitating more accurate margin calculations, and in general, to protect investors and the public interest. In addition, the proposed rule change is not inconsistent with OCC's existing rules, including any other rules currently proposed to be amended.

(B) Self-Regulatory Organization's Statement on Burden on Competition

OCC does not believe that the proposed rule change would impose any burden on competition.

(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others

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

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

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

- (a) by order approve the proposed rule change or
- (b) institute proceedings to determine whether the proposed rule change should be disapproved.

VI. Solicitation of Comments

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

Electronic comments:

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>) or
- Send an e-mail to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-OCC-2004-20 on the subject line.

Paper comments:

- Send paper comments in triplicate to Jonathan G. Katz, Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-9303.

All submissions should refer to File Number SR-OCC-2004-20. 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 Web site (<http://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Section, 100 F Street, NE, Washington, DC 20549. Copies of such filing also will be available for inspection

and copying at the principal office of OCC and on OCC's Web site at [www.optionsclearing.com](http://www.optionsclearing.com).

All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR-OCC-2004-20 and should be submitted on or before [insert date 21 days from publication in the Federal Register].

For the Commission by the Division of Market Regulation, pursuant to delegated authority.<sup>3</sup>

Jonathan G. Katz  
Secretary

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<sup>3</sup> 17 CFR 200.30-3(a)(12).