SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–53322; File No. SR–OCC–2004–20]

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

February 15, 2006.

I. Introduction

On November 15, 2004, The Options Clearing Corporation (''OCC'') filed with the Securities and Exchange Commission (''Commission'') proposed rule change SR–OCC–2004–20 pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (''Act'').[1] Notice of the proposal was published in the **Federal Register** on December 27, 2005.[2] No comment letters were received. For the reasons discussed below, the Commission is granting approval of the proposed rule change.

II. Description

The rule change will allow OCC to implement a new risk management methodology to determine the amount of margin assets required to be deposited by a clearing member with respect to each account of that clearing member. The 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.[3]

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. The following are examples of these shortcomings:

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. Instead, 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

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. The following are ways in which STANS reduces the imprecision associated with TIMS:

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

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

[2] Securities Exchange Act Release No. 52975 (December 19, 2005), 70 FR 76487.

[3] OCC will continue to run its TIMS methodology for purposes of calculating theoretical gains and losses pursuant to Rule 15c3–1a under the Act.

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. By producing margin requirements that are more precise for every account, STANS ensures all accounts will have coverage for predicted liquidation outcomes at the selected confidence levels.

These characteristics will improve the accuracy of margin calculations which should 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 will revise most of Rule 601 and will eliminate Rule 602. Revised Rule 601 is conceptual rather than 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. Because STANS will calculate margin on equity and non-equity products in one integrated set of calculations, the calculation of margin requirements for all products will be as set forth in revised Rule 601. OCC proposes to delete cross-references to Rule 602 as appropriate throughout the Rules.

Revised Rule 601(c) contains a basic conceptual description of how under STANS OCC will determine the amount of margin assets a clearing member is required to deposit with OCC. Revised 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 of margin requirement calculations. Definitions of each of these terms have been included in the amendments to Article I of the By-Laws or Rule 601 as appropriate.

OCC will delete terms that were defined in Rule 601(b) that were relevant to TIMS but that are not relevant to STANS. For example, the terms ''premium margin'' and ''risk margin'' are deleted. The ''margin requirement'' as determined using STANS will be 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 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 is not appropriate.

The 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 revised Rule 601(e), ''Exclusions from Margin Requirement Calculation,'' is to identify in one place those positions that are excluded from margin requirement calculations altogether. Previous Rule 601(e) indicated that exercised or expired positions in cleared contracts or stock loan and borrow positions were excluded from margin requirement calculations. Rule 601(a) previously indicated that short positions in option contracts or BOUNDs for which a deposit in lieu of margin has been made were excluded from margin requirement calculations. Rule 614 previously indicated that long positions in cleared securities that have been pledged to a pledgee were 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 previous Rule 601(e) has been revised to be clearer and more concise and is now covered in Rule 601(f). The previous rule contained a somewhat artificial description of margin assets being released under a position-specific determination. Consistent with the more integrated approach of the STANS methodology, revised 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.

Previous Rule 2111(b) and Rule 2409(b) envisioned that a provisional margin requirement would 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 will 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.

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. Accordingly, there would 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 of Market Regulation (''Division'') requested that OCC amend its rules to increase the percentage used to calculate the size of the clearing fund because the Division believes that for the time being the clearing fund should not be significantly reduced. As a result, OCC amended the proposed rule change to amend Chapter X, Rule 1001, ''Amount of [Clearing

Fund] Contribution,'' to increase the minimum percentage used in the clearing fund calculation from 5 percent to 6 percent of average aggregate margin.

III. Discussion

Section 17A(b)(3)(F) of the Act provides that the rules of a clearing agency should be designed to promote the prompt and accurate clearance and settlement of securities transactions and to assure the safeguarding of securities and funds which are in its custody or control or for which it is responsible. OCC's margin methodology calculates the current replacement cost and market risk associated with a member's positions so that OCC may collect sufficient collateral to complete settlement in the event the member becomes insolvent or otherwise fails to meet its obligations to OCC. OCC's ability to meet its settlement obligations following a member insolvency is an important function of its role as a central counterparty.[4] It is therefore necessary that OCC have an effective methodology for calculating risk-based margin to promote the prompt and accurate clearance and settlement of securities transactions and to assure the safeguarding of securities and funds which are in its custody or control or for which it is responsible.

The TIMS methodology has been used by OCC since 1991[5] and has become recognized as an industry standard for measuring risk in portfolios comprised of options, futures, and futures on options. However, as discussed above, OCC believes that there are some shortcomings to the TIMS methodology and that the more sophisticated STANS methodology will better measure the market risk in a member's account. One of the main shortcomings of TIMS is that it recognizes only a limited diversification benefit for clearing member accounts by offsetting positions only within the same product group. Further, these offsets are conservative and are not based on a statistical model for the joint behavior of asset returns. STANS, on the other hand, generates simulated returns for all of the positions in the clearing member's account simultaneously. The statistical specification and subsequent simulation in STANS, rather than the ad hoc rule in TIMS, determines the degree of offset for correlated positions.

Because STANS is designed to allow a greater amount of offset for diversification than TIMS, most of OCC's members will be required to deposit less margin under STANS than they currently are under TIMS. For instance, the 20 largest accounts at OCC would have exhibited reductions in margin of over 50 percent as of September 2005. This significant reduction reflects the difference between the two methodologies in allowance of a diversification benefit in calculating the risk-based margin of a member's account. It does not reflect a change in the purpose of OCC's margin requirement, which is to provide OCC with sufficient collateral in the event a member becomes insolvent or otherwise fails to meet its obligations to OCC. OCC will collect less margin from its members under STANS because STANS will explicitly model a joint distribution of asset returns in order to better measure risk at the member portfolio level and not because OCC is changing its tolerance for counterparty credit risk.

OCC has operated STANS in test mode for more than two years and has reviewed the methodology and the results of test operations with staff of the Commission's Division of Market Regulation (''Division'') during that time. Since June 2003, OCC has been providing information on the statistical and operational features of the STANS methodology to staff of the Office of Prudential Supervision and Risk Analysis of the Division. 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. As a result of these reviews, the Commission is of the opinion that STANS is consistent with the practices of other sophisticated market participants in measuring the risk associated with options portfolios.

Although the Commission is satisfied that STANS has performed in test mode as expected thus far, it is requiring OCC to take two measures with respect to using the new methodology. First, OCC will continue to provide the Division with information regarding the performance of STANS. OCC will provide the Division with quarterly reports summarizing any instances in which a member's account experienced a loss that exceeded the margin requirement calculated by STANS and the magnitude of any such losses. Second, OCC has amended its clearing fund formula so that the amount of clearing fund, which is a percentage of average daily total margin, will not initially decrease with the implementation of STANS and the decrease in margin requirements. Because the clearing fund serves as a resource in the event of insufficient margin deposits, the Commission does not believe it is prudent at this time for the size of the clearing fund to significantly decrease at the same time margin requirements are significantly decreased. Therefore, OCC is increasing its clearing fund calculation so that the clearing fund will be 6 percent, instead of 5 percent, of aggregate daily total margin.

Accordingly, because the Commission believes the STANS methodology is designed to provide OCC with sufficient margin to protect itself in the event of a member insolvency or other inability to satisfy its obligations to OCC, the Commission finds that OCC's proposed rule change implementing STANS and revising its clearing fund calculation is designed to promote the prompt and accurate clearance and settlement of securities transactions and to assure the safeguarding of securities and funds which are in OCC's custody or control or for which it is responsible.

IV. Conclusion

On the basis of the foregoing, the Commission finds that the proposed rule change is consistent with the requirements of the Act and in particular with the requirements of Section 17A of the Act and the rules and regulations thereunder.

It is therefore ordered, pursuant to Section 19(b)(2) of the Act, that the proposed rule change (File No. SR–OCC–2004–20) be and hereby is approved.

For the Commission by the Division of Market Regulation, pursuant to delegated authority.[6]

J. Lynn Taylor,

Assistant Secretary.

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[4] The margin methodology under both TIMS and STANS uses short-term historical returns and return volatilities to calculate the market risk associated with a member's positions. As a result, margin should provide OCC with sufficient collateral to complete settlement under normal market conditions. Very unusual and sudden market moves could result in losses to a member's account that are in excess of the margin on deposit with OCC. If a member becomes insolvent or otherwise fails to meet its obligations to OCC under such circumstances, OCC would access the assets in its clearing fund to complete settlement of the member's trades.

[5] Securities Exchange Act Release Nos. 27394 (October 26, 1989), 54 FR 46175 (November 1, 1989) [File No. SR–OCC–89–12] (Notice of filing for the TIMS proposal) and 28928 (March 1, 1991), 56 FR 9995 (March 8, 1991) (Original order approving the use of TIMS to calculate margin on equity options on a temporary basis).

[6] 17 CFR 200.30–3(a)(12).