



May 1, 2015

VIA CFTC PORTAL

Melissa Jurgens
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, DC 20581

Re: Rule Filing SR-OCC-2015-010 Rule Certification

Dear Secretary Jurgens:

Pursuant to Section 5c(c)(1) of the Commodity Exchange Act, as amended (“Act”), and Commodity Futures Trading Commission (“CFTC”) Regulation 40.6, enclosed is a copy of the above-referenced rule filing submitted by The Options Clearing Corporation (“OCC”). The date of implementation of the rule is at least 10 business days following receipt of the rule filing by the CFTC or the date the proposed rule is approved by the Securities and Exchange Commission (the “SEC”) or otherwise becomes effective under the Securities Exchange Act of 1934 (the “Exchange Act”). This rule filing has been, or is concurrently being, submitted to the SEC under the Exchange Act.

In conformity with the requirements of Regulation 40.6(a)(7), OCC states the following:

Explanation and Analysis

The purpose of this proposed rule change is to describe the risk models that OCC proposes to add to its STANS methodology in order to support the clearance and settlement of Asian Options and Cliquet Options.

Background

OCC currently clears flexibly structured options on various securities indices (“Current Index Flex Options”).¹ Current Index Flex Options permit the buyer and seller to negotiate certain variable terms, pursuant to exchange rules,² in order to customize such terms. For

¹ OCC clears Current Index Flex Options on the S&P 500® Index, S&P 100® Index, Nasdaq 100® Index and the Russell 2000® Index, among other underlying indexes.

² See, OCC By-Laws Article 1, Section 1(F)(5).

example, the parties may select from a variety of underlying indices, pick a strike price and expiration date as well as pick the exercise-style of the option – *i.e.*, American or European exercise.³ Current Index Flex Options are cash settled options for which the exercise settlement amount is determined based entirely on the strike price of a given option and the current underlying interest value on the day of exercise, in the case of American style Current Index Flex Options, or final day of trading, in the case of European style Current Index Flex Options. For risk modeling purposes, OCC computes clearing member margin requirements on Current Index Flex Options through pricing models within its STANS⁴ methodology that derive prices from the implied volatility of index options with the same tenor, strike price and underlying interest.

Asian Options are European style options that use an “Asian-style” methodology for determining the exercise settlement amount of an option, which is the difference between the aggregate exercise price and the aggregate current underlying interest value, which is based on the average of twelve monthly price “observations.” Traders of Asian Options would select an observation date as well as an expiration date for the contract approximately twelve months following the contract’s creation.⁵ Consequently, all Asian Options for which OCC would provide clearance and settlement services would have a term of approximately one year.⁶

Cliquet Options are European style options that use a cliquet⁷ method for determining the exercise settlement amount of the option, which is the greater of: (i) zero (*i.e.*, the underlying index had negative returns during the option’s tenor); and, (ii) the difference between the aggregate exercise price and the aggregate current underlying interest value, which is based on the sum of the Capped Returns (defined below) of the underlying index on 12 predetermined “observation dates” (each an “Observation Date,” and the computed value an “Observation”). The parties to a Cliquet Option would designate a set of Observation Dates for each contract as well as an expiration date.⁸ On each Observation Date, the exchange on which the Cliquet

³ Options with an American style exercise may be exercised at any time prior to, and including, expiration. Options with a European style exercise may only be exercised at expiration.

⁴ See, <http://www.theocc.com/risk-management/margins/> for a description of OCC’s margin methodology. See also, OCC Rule 601.

⁵ Expiration dates must be within 50 to 53 calendar weeks from the date of listing.

⁶ If the expiration date precedes the observation date in the final month, then the final “observation” would be the current underlying interest value on expiration date and not the observation date. If one of the observation dates falls on a weekend or holiday, the value used would be from the previous business day.

⁷ Cliquet style settlement provides for payout based on the (positive) sum of “capped” returns of an index on pre-determined dates over a specified period of time.

⁸ Observations Dates would generally be a given date each month for the twelve months preceding the expiration date, with the last Observation Date being the expiration date. If the Observation Date chosen by the parties to a Cliquet Option precedes the

Options is listed would determine the actual return of the underlying index from observation period-to-observation period, which would be compared to the observation cap, which is an amount designated the parties to the Cliquet Option.⁹ The lesser of the actual observation period-to- observation period return or the observation cap would be the Capped Return for a given Observation Date.¹⁰

Both Asian Options and Cliquet Options would be only available in European style exercises, and would be subject to OCC's expiration exercise procedures set forth in OCC Rule 805, as supplemented by OCC Rule 1804. In addition, OCC would initially clear Asian Options and Cliquet Options on the S&P 500 Index, Nasdaq100 Index, Russell 2000 Index and the Dow Jones Industrial Average Index and may clear Asian Options and Cliquet Options on other indices in the future.

New Risk Models

OCC would compute clearing member margin requirements on Asian Options and Cliquet Options using its STANS methodology. Since STANS uses option prices to compute clearing member margin charges, the risk model changes necessary to accommodate the clearance and settlement of Asian Options and Cliquet Options concern the addition of appropriate price models for Asian Options and Cliquet Options. Both Asian Options and Cliquet Options are index options, and while OCC computes the price of Current Index Flex Options on indices through standard pricing models (*i.e.*, the Black-Scholes pricing model) that consider: i) the value of the option's underlying index, ii) the implied volatility of an option's underlying index, iii) time until expiration, iv) risk-free interest rate, and v) the strike price of the option, certain modifications to OCC's existing pricing models for Current Index Flex Options are necessary in order to account for certain features of Asian Options and Cliquet Options, as described below, so that clearing member margin on such options may be computed through

expiration date then there would be two Observation Dates in the final month (*i.e.*, the expiration date would always be an Observation Date) and ten other Observation Dates; one date in each of the ten months preceding the expiration month that would coincide with the Observation Date that was chosen by the parties to a Cliquet Option (not the expiration date). Expiration dates must be within 50 to 53 calendar weeks from the date of listing. If one of the Observation Dates falls on a weekend or holiday, the previous business day would be deemed to be the Observation Date.

⁹ *Id.*

¹⁰ For example, if the actual return of the underlying index was 1.75% and the designated capped return for a Cliquet Option was 2%, the 1.75% value would be included (and not the 2%) as the value for the Observation Date. Using this same example, if the actual return of the underlying index was 3.30%, the 2% value would be included (and not the 3.30%) as the value for the Observation Date.

STANS. Accordingly, OCC proposes to implement the new pricing models described below in order to compute prices for Asian Options and Cliquet Options thereby allowing for the computation of clearing member margin requirements for such options through the STANS methodology.

Asian Options

Asian Options differ from the Current Index Flex Options currently cleared by OCC due to the option's exercise settlement amount being a function of the arithmetic average of the underlying index on certain observation dates. (In comparison, and in the case Current Index Flex Options, the exercise settlement amount of the option is a function of the value of underlying index of a given option on the exercise date or expiration date, as applicable.) Based on this phenomenon, OCC proposes to add a new pricing model for Asian Options that would be a shifted lognormal model¹¹ to accommodate the fact that Asian Options would have an arithmetic average value of the underlying index within the final exercise settlement amount calculation. The shifted lognormal model would account for the fact that the current underlying interest value on the expiration date of an Asian Option is based on an arithmetic average of prices, and not the value of the underlying index on the option's expiration date, which introduces non-normality into the probability distribution of contract payoffs.

With respect to the Asian Option shifted lognormal pricing model, OCC proposes to utilize a modified Black-Scholes pricing model with a shift parameter that employs the first three statistical "moments." In accordance with such model, the first moment is the expected value of an Asian Option's value based on the option's implied volatility. The second moment accounts for the statistical volatility of the option's value. The third moment accounts for the statistical skewness of the option's value. The moments are intended to account for variability in the arithmetic average value of an Asian Option's underlying index. The shifted lognormal distribution (*i.e.*, the lognormal probability distribution derived using the first through third moments above) is then priced through the standard Black-Scholes equation.¹² The shift parameters are then adjusted out of the Black-Scholes price in order to derive a price for a given Asian Option that is appropriate to be utilized within the STANS methodology for the purposes of computing clearing member margin on Asian Options.

¹¹ See, Andreasen, J., "The pricing of discretely sampled Asian and lookback options: a change of numeraire approach," *Journal of Computational Finance*, September 2000. See also, Brigo, D., Mercurio, F., Rapidsarda, F., Scotti, R., "Approximated moment-matching dynamics for basket-options simulation," EFMA Lugano meetings, November 2001. See also, Haug, E.G. and Margrabe, W., "Asian Pyramid Power," *Wilmott Magazine*, March 2003.

¹² In connection with using the standard Black-Scholes equation, OCC would also compute each of the three moments using a random shifted lognormal variable.

Cliquet Options

Similar to Asian Options, the price of a given Cliquet Options is based on monthly Observations of an underlying index. While a shifted lognormal model is an appropriate pricing model for Asian Options, the capped return feature of Cliquet Options makes the numerical solution to the Black-Scholes Partial Differential Equation¹³ the appropriate pricing model for Cliquet Options.¹⁴ OCC therefore proposes to add a Cliquet Option pricing model to its STANS methodology that would compute the numerical solution to the Black-Scholes Partial Differential Equation. Such a solution would provide OCC with the price of a given Cliquet Option that would be utilized within the STANS methodology for the purposes of computing clearing member margin requirements.

With respect to the pricing of a given Cliquet Option, and based on the capped return feature of Cliquet Options, OCC would identify the known implied volatility skew of standard options with the same underlying interest, a similar tenor and a similar amount of forward moneyness¹⁵ of the given Cliquet Option. OCC's calculation of forward moneyness would include an adjustment to account for any known Observations of the underlying interest for a given Cliquet Option. The known implied volatility skew would subsequently be utilized within the Black-Scholes Partial Differential Equation so that OCC would be able to derive the price of a given Cliquet Option, which would then be utilized within the STANS methodology for purposes of computing clearing member margin requirements on a Cliquet Options.

OCC reviewed the derivatives clearing organization ("DCO") core principles ("Core Principles") as set forth in the Commodity Exchange Act. During this review, OCC identified the following Core Principle as potentially being impacted:

¹³ The differential equation model incorporates boundary conditions that ensure that the value of a given Cliquet Option is consistent throughout the equation. (Boundary conditions are necessary in order to solve differential equations.)

¹⁴ See, Andreasen, J., "The pricing of discretely sampled Asian and lookback options: a change of numeraire approach." *Journal of Computational Finance* (2000). See also, Bernard, C., & Li, W. V., "Pricing and Hedging of Cliquet Options and Locally Capped Contracts." *SIAM Journal on Financial Mathematics*, 353-371 (2013). See also, Hagan, P. S., Kumar, D., & Lesniewski, A. S., "Managing Smile Risk." *Wilmott Magazine*, 84-108 (2002). See also, Hull, John C., "Options Futures and other Derivatives." McGraw Hill (2000). See also, Kjaer, M., "Fast pricing of cliquet options with global floor." *Journal of Derivatives*, 14(2), 47-60 (2006).

¹⁵ Forward moneyness is the ratio of the strike to the current value of the implied forward for the index.

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Participant and Product Eligibility. OCC has established appropriate requirements for determining the eligibility of contracts submitted to OCC for clearing, taking into account OCC's ability to manage the risk associated with such contracts. As such, OCC believes that the proposed rule change would permit OCC to effectively risk manage Asian Options and Cliquet Options through appropriate risk models as described above. Such risk models would reduce the risk that clearing member margin assets would be insufficient should OCC need to use such assets to close-out the positions of a defaulted clearing member thereby ensuring OCC meets its financial obligations to its clearing members.

Opposing Views

No opposing views were expressed related to the rule amendments.

Notice of Pending Rule Certification

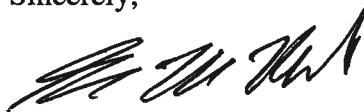
OCC hereby certifies that notice of this rule filing has been given to clearing members of OCC in compliance with Regulation 40.6(a)(2) by posting a copy of the submission on OCC's website concurrently with the filing of this submission.

Certification

OCC hereby certifies that the rule set forth at Item 1 of the enclosed filing complies with the Act and the CFTC's regulations thereunder.

Should you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,



Scott M. Kalish
Assistant Secretary

Enclosure

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 19b-4

Proposed Rule Change
by

THE OPTIONS CLEARING CORPORATION

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

Item 1. Text of the Proposed Rule Change

This proposed rule change by The Options Clearing Corporation (“OCC”) concerns the implementation of new risk models in order to support the clearance and settlement of Asian-style flexibly structured options (“Asian Options”) and flexibly structured Cliquet options (“Cliquet Options”). No material is proposed to be added to or deleted from OCC’s By-laws or Rules.

Item 2. Procedures of the Self-Regulatory Organization

The proposed Change was approved for filing with the Commission by OCC’s President on April 29, 2015, pursuant to authority delegated by the Board of Directors of OCC on September 23, 2014.

Questions should be addressed to Stephen M. Szarmack, Vice President and Associate General Counsel, at (312) 322-4802.

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

A. Purpose

The purpose of this proposed rule change is to describe the risk models that OCC proposes to add to its STANS methodology in order to support the clearance and settlement of Asian Options and Cliquet Options.

Background

OCC currently clears flexibly structured options on various securities indices (“Current Index Flex Options”).¹ Current Index Flex Options permit the buyer and seller to negotiate

¹ OCC clears Current Index Flex Options on the S&P 500® Index, S&P 100® Index, Nasdaq 100® Index and the Russell 2000® Index, among other underlying indexes.

certain variable terms, pursuant to exchange rules,² in order to customize such terms. For example, the parties may select from a variety of underlying indices, pick a strike price and expiration date as well as pick the exercise-style of the option – *i.e.*, American or European exercise.³ Current Index Flex Options are cash settled options for which the exercise settlement amount is determined based entirely on the strike price of a given option and the current underlying interest value on the day of exercise, in the case of American style Current Index Flex Options, or final day of trading, in the case of European style Current Index Flex Options. For risk modeling purposes, OCC computes clearing member margin requirements on Current Index Flex Options through pricing models within its STANS⁴ methodology that derive prices from the implied volatility of index options with the same tenor, strike price and underlying interest.

Asian Options are European style options that use an “Asian-style” methodology for determining the exercise settlement amount of an option, which is the difference between the aggregate exercise price and the aggregate current underlying interest value, which is based on the average of twelve monthly price “observations.” Traders of Asian Options would select an observation date as well as an expiration date for the contract approximately twelve months following the contract’s creation.⁵ Consequently, all Asian Options for which OCC would

² See, OCC By-Laws Article 1, Section 1(F)(5).

³ Options with an American style exercise may be exercised at any time prior to, and including, expiration. Options with a European style exercise may only be exercised at expiration.

⁴ See, <http://www.theocc.com/risk-management/margins/> for a description of OCC’s margin methodology. See also, OCC Rule 601.

⁵ Expiration dates must be within 50 to 53 calendar weeks from the date of listing.

provide clearance and settlement services would have a term of approximately one year.⁶

Cliquet Options are European style options that use a cliquet⁷ method for determining the exercise settlement amount of the option, which is the greater of: (i) zero (i.e., the underlying index had negative returns during the option's tenor); and, (ii) the difference between the aggregate exercise price and the aggregate current underlying interest value, which is based on the sum of the Capped Returns (defined below) of the underlying index on 12 predetermined "observation dates" (each an "Observation Date," and the computed value an "Observation"). The parties to a Cliquet Option would designate a set of Observation Dates for each contract as well as an expiration date.⁸ On each Observation Date, the exchange on which the Cliquet Options is listed would determine the actual return of the underlying index from observation period-to-observation period, which would be compared to the observation cap, which is an amount designated the parties to the Cliquet Option.⁹ The lesser of the actual observation period-to- observation period return or the observation cap would be the Capped Return for a

⁶ If the expiration date precedes the observation date in the final month, then the final "observation" would be the current underlying interest value on expiration date and not the observation date. If one of the observation dates falls on a weekend or holiday, the value used would be from the previous business day.

⁷ Cliquet style settlement provides for payout based on the (positive) sum of "capped" returns of an index on pre-determined dates over a specified period of time.

⁸ Observations Dates would generally be a given date each month for the twelve months preceding the expiration date, with the last Observation Date being the expiration date. If the Observation Date chosen by the parties to a Cliquet Option precedes the expiration date then there would be two Observation Dates in the final month (i.e., the expiration date would always be an Observation Date) and ten other Observation Dates; one date in each of the ten months preceding the expiration month that would coincide with the Observation Date that was chosen by the parties to a Cliquet Option (not the expiration date). Expiration dates must be within 50 to 53 calendar weeks from the date of listing. If one of the Observation Dates falls on a weekend or holiday, the previous business day would be deemed to be the Observation Date.

⁹ *Id.*

given Observation Date.¹⁰

Both Asian Options and Cliquet Options would be only available in European style exercises, and would be subject to OCC's expiration exercise procedures set forth in OCC Rule 805, as supplemented by OCC Rule 1804. In addition, OCC would initially clear Asian Options and Cliquet Options on the S&P 500 Index, Nasdaq100 Index, Russell 2000 Index and the Dow Jones Industrial Average Index and may clear Asian Options and Cliquet Options on other indices in the future.

New Risk Models

OCC would compute clearing member margin requirements on Asian Options and Cliquet Options using its STANS methodology. Since STANS uses option prices to compute clearing member margin charges, the risk model changes necessary to accommodate the clearance and settlement of Asian Options and Cliquet Options concern the addition of appropriate price models for Asian Options and Cliquet Options. Both Asian Options and Cliquet Options are index options, and while OCC computes the price of Current Index Flex Options on indices through standard pricing models (*i.e.*, the Black-Scholes pricing model) that consider: i) the value of the option's underlying index, ii) the implied volatility of an option's underlying index, iii) time until expiration, iv) risk-free interest rate, and v) the strike price of the option, certain modifications to OCC's existing pricing models for Current Index Flex Options are necessary in order to account for certain features of Asian Options and Cliquet Options, as described below, so that clearing member margin on such options may be computed through

¹⁰ For example, if the actual return of the underlying index was 1.75% and the designated capped return for a Cliquet Option was 2%, the 1.75% value would be included (and not the 2%) as the value for the Observation Date. Using this same example, if the actual return of the underlying index was 3.30%, the 2% value would be included (and not the 3.30%) as the value for the Observation Date.

STANS. Accordingly, OCC proposes to implement the new pricing models described below in order to compute prices for Asian Options and Cliquet Options thereby allowing for the computation of clearing member margin requirements for such options through the STANS methodology.

Asian Options

Asian Options differ from the Current Index Flex Options currently cleared by OCC due to the option's exercise settlement amount being a function of the arithmetic average of the underlying index on certain observation dates. (In comparison, and in the case Current Index Flex Options, the exercise settlement amount of the option is a function of the value of underlying index of a given option on the exercise date or expiration date, as applicable.) Based on this phenomenon, OCC proposes to add a new pricing model for Asian Options that would be a shifted lognormal model¹¹ to accommodate the fact that Asian Options would have an arithmetic average value of the underlying index within the final exercise settlement amount calculation. The shifted lognormal model would account for the fact that the current underlying interest value on the expiration date of an Asian Option is based on an arithmetic average of prices, and not the value of the underlying index on the option's expiration date, which introduces non-normality into the probability distribution of contract payoffs.

With respect to the Asian Option shifted lognormal pricing model, OCC proposes to utilize a modified Black-Scholes pricing model with a shift parameter that employs the first three statistical "moments." In accordance with such model, the first moment is the expected value of

¹¹ See, Andreasen, J., "The pricing of discretely sampled Asian and lookback options: a change of numeraire approach," *Journal of Computational Finance*, September 2000. See also, Brigo, D., Mercurio, F., Rapidsarda, F., Scotti, R., "Approximated moment-matching dynamics for basket-options simulation," EFMA Lugano meetings, November 2001. See also, Haug, E.G. and Margrabe, W., "Asian Pyramid Power," *Wilmott Magazine*, March 2003.

an Asian Option's value based on the option's implied volatility. The second moment accounts for the statistical volatility of the option's value. The third moment accounts for the statistical skewness of the option's value. The moments are intended to account for variability in the arithmetic average value of an Asian Option's underlying index. The shifted lognormal distribution (*i.e.*, the lognormal probability distribution derived using the first through third moments above) is then priced through the standard Black-Scholes equation.¹² The shift parameters are then adjusted out of the Black-Scholes price in order to derive a price for a given Asian Option that is appropriate to be utilized within the STANS methodology for the purposes of computing clearing member margin on Asian Options.

Cliquet Options

Similar to Asian Options, the price of a given Cliquet Options is based on monthly Observations of an underlying index. While a shifted lognormal model is an appropriate pricing model for Asian Options, the capped return feature of Cliquet Options makes the numerical solution to the Black-Scholes Partial Differential Equation¹³ the appropriate pricing model for Cliquet Options.¹⁴ OCC therefore proposes to add a Cliquet Option pricing model to its

¹² In connection with using the standard Black-Scholes equation, OCC would also compute each of the three moments using a random shifted lognormal variable.

¹³ The differential equation model incorporates boundary conditions that ensure that the value of a given Cliquet Option is consistent throughout the equation. (Boundary conditions are necessary in order to solve differential equations.)

¹⁴ See, Andreasen, J., "The pricing of discretely sampled Asian and lookback options: a change of numeraire approach." *Journal of Computational Finance* (2000). See also, Bernard, C., & Li, W. V., "Pricing and Hedging of Cliquet Options and Locally Capped Contracts." *SIAM Journal on Financial Mathematics*, 353-371 (2013). See also, Hagan, P. S., Kumar, D., & Lesniewski, A. S., "Managing Smile Risk." *Wilmott Magazine*, 84-108 (2002). See also, Hull, John C., "Options Futures and other Derivatives." McGraw Hill (2000). See also, Kjaer, M., "Fast pricing of cliquet options with global floor." *Journal of Derivatives*, 14(2), 47-60 (2006).

STANS methodology that would compute the numerical solution to the Black-Scholes Partial Differential Equation. Such a solution would provide OCC with the price of a given Cliquet Option that would be utilized within the STANS methodology for the purposes of computing clearing member margin requirements.

With respect to the pricing of a given Cliquet Option, and based on the capped return feature of Cliquet Options, OCC would identify the known implied volatility skew of standard options with the same underlying interest, a similar tenor and a similar amount of forward moneyness¹⁵ of the given Cliquet Option. OCC's calculation of forward moneyness would include an adjustment to account for any known Observations of the underlying interest for a given Cliquet Option. The known implied volatility skew would subsequently be utilized within the Black-Scholes Partial Differential Equation so that OCC would be able to derive the price of a given Cliquet Option, which would then be utilized within the STANS methodology for purposes of computing clearing member margin requirements on a Cliquet Options.

B. Statutory Basis

OCC believes that the proposed rule change is consistent with Section 17A(b)(3)(F) of the Securities Exchange Act of 1934 (the "Act")¹⁶ because it would assure the safeguarding of securities and funds which are in the custody and control of OCC. OCC believes that the proposed rule change assures the safeguarding of securities and funds in the custody and control of OCC because it would permit OCC to modify its risk models to accommodate the manner in which the exercise settlement amount for Asian Options and Cliquet Options is determined

¹⁵ Forward moneyness is the ratio of the strike to the current value of the implied forward for the index.

¹⁶ 15 U.S.C. 78q-1(b)(3)(F).

thereby permitting OCC to risk manage Asian Options and Cliquet Options through appropriate risk models. Such risk models would reduce the risk that clearing member margin assets would be insufficient should OCC need to use such assets to close-out the positions of a defaulted clearing member. In addition, the proposed rule change is consistent with Rule 17Ad-22(b)(2) under the Act,¹⁷ because the proposed rule change would allow OCC to implement risk-based models and parameters, as described above, to set margin requirements for clearing members who trade Asian Options and Cliquet Options. The proposed rule change is not inconsistent with any existing OCC By-Laws or Rules, including any rules proposed to be amended.

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

OCC does not believe that the proposed rule change would impose a burden on competition.¹⁸ As described above, the proposed rule change concerns implementation of certain pricing models in to the STANS methodology in order to facilitate the margining of clearing member positions in Asian Options and Cliquet Options. The proposed rule change would uniformly affect all clearing members who trade Asian Options and Cliquet Options and therefore OCC does not believe that proposed rule change would impose a burden on competition.

¹⁷ 17 CFR 240.17Ad-22(b)(2).

¹⁸ 15 U.S.C. 78q-1(b)(3)(I).

Item 5. 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.

Item 6. Extension of Time Period for Commission Action

OCC does not consent to an extension of the time period specified in Section 19(b)(2) of the Act.¹⁹

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. Proposed Rule Change Based on Rules 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

Not applicable.

Item 11. Exhibits

Exhibit 1A. Completed Notice of Proposed Rule Change for publication in the Federal Register.

¹⁹ 15 U.S.C. 78s(b)(2).

SIGNATURES

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

THE OPTIONS CLEARING CORPORATION

By:



Scott M. Kalish
Assistant Secretary

EXHIBIT 1A

SECURITIES AND EXCHANGE COMMISSION

(Release No. 34-[_____]; File No. SR-OCC-2015-010)

May 1, 2015

Self-Regulatory Organizations; The Options Clearing Corporation; Notice of Filing of a Proposed Rule Change Concerning the Implementation of New Risk Models in Order to Support the Clearance and Settlement of Asian-Style Flexibly Structured Options and Flexibly Structured Cliquet Options (“Cliquet Options”)

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)¹ and Rule 19b-4 thereunder² notice is hereby given that on May 1, 2015, The Options Clearing Corporation (“OCC”) filed with the Securities and Exchange Commission (“Commission”) 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 from interested persons.

I. Clearing Agency’s Statement of the Terms of Substance of the Proposed Rule Change

This proposed rule change by OCC concerns the implementation of new risk models in order to support the clearance and settlement of Asian-style flexibly structured options (“Asian Options”) and flexibly structured Cliquet options (“Cliquet Options”).

II. Clearing Agency’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

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

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 these statements.

(A) Clearing Agency's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

The purpose of this proposed rule change is to describe the risk models that OCC proposes to add to its STANS methodology in order to support the clearance and settlement of Asian Options and Cliquet Options.

Background

OCC currently clears flexibly structured options on various securities indices ("Current Index Flex Options").³ Current Index Flex Options permit the buyer and seller to negotiate certain variable terms, pursuant to exchange rules,⁴ in order to customize such terms. For example, the parties may select from a variety of underlying indices, pick a strike price and expiration date as well as pick the exercise-style of the option – *i.e.*, American or European exercise.⁵ Current Index Flex Options are cash settled options for which the exercise settlement amount is determined based entirely on the strike price of a given option and the current underlying interest value on the day of exercise, in the case of American style Current Index Flex

³ OCC clears Current Index Flex Options on the S&P 500® Index, S&P 100® Index, Nasdaq 100® Index and the Russell 2000® Index, among other underlying indexes.

⁴ See, OCC By-Laws Article 1, Section 1(F)(5).

⁵ Options with an American style exercise may be exercised at any time prior to, and including, expiration. Options with a European style exercise may only be exercised at expiration.

Options, or final day of trading, in the case of European style Current Index Flex Options. For risk modeling purposes, OCC computes clearing member margin requirements on Current Index Flex Options through pricing models within its STANS⁶ methodology that derive prices from the implied volatility of index options with the same tenor, strike price and underlying interest.

Asian Options are European style options that use an “Asian-style” methodology for determining the exercise settlement amount of an option, which is the difference between the aggregate exercise price and the aggregate current underlying interest value, which is based on the average of twelve monthly price “observations.” Traders of Asian Options would select an observation date as well as an expiration date for the contract approximately twelve months following the contract’s creation.⁷ Consequently, all Asian Options for which OCC would provide clearance and settlement services would have a term of approximately one year.⁸

Cliquet Options are European style options that use a cliquet⁹ method for determining the exercise settlement amount of the option, which is the greater of: (i) zero (i.e., the underlying index had negative returns during the option’s tenor); and, (ii) the difference between the aggregate exercise price and the aggregate current underlying interest value, which is based on the sum of the Capped Returns (defined below) of the underlying index on 12 predetermined

⁶ See, <http://www.theocc.com/risk-management/margins/> for a description of OCC’s margin methodology. See also, OCC Rule 601.

⁷ Expiration dates must be within 50 to 53 calendar weeks from the date of listing.

⁸ If the expiration date precedes the observation date in the final month, then the final “observation” would be the current underlying interest value on expiration date and not the observation date. If one of the observation dates falls on a weekend or holiday, the value used would be from the previous business day.

⁹ Cliquet style settlement provides for payout based on the (positive) sum of “capped” returns of an index on pre-determined dates over a specified period of time.

“observation dates” (each an “Observation Date,” and the computed value an “Observation”).

The parties to a Cliquet Option would designate a set of Observation Dates for each contract as well as an expiration date.¹⁰ On each Observation Date, the exchange on which the Cliquet Options is listed would determine the actual return of the underlying index from observation period-to-observation period, which would be compared to the observation cap, which is an amount designated the parties to the Cliquet Option.¹¹ The lesser of the actual observation period-to- observation period return or the observation cap would be the Capped Return for a given Observation Date.¹²

Both Asian Options and Cliquet Options would be only available in European style exercises, and would be subject to OCC’s expiration exercise procedures set forth in OCC Rule 805, as supplemented by OCC Rule 1804. In addition, OCC would initially clear Asian Options and Cliquet Options on the S&P 500 Index, Nasdaq100 Index, Russell 2000 Index and the Dow

¹⁰ Observations Dates would generally be a given date each month for the twelve months preceding the expiration date, with the last Observation Date being the expiration date. If the Observation Date chosen by the parties to a Cliquet Option precedes the expiration date then there would be two Observation Dates in the final month (i.e., the expiration date would always be an Observation Date) and ten other Observation Dates; one date in each of the ten months preceding the expiration month that would coincide with the Observation Date that was chosen by the parties to a Cliquet Option (not the expiration date). Expiration dates must be within 50 to 53 calendar weeks from the date of listing. If one of the Observation Dates falls on a weekend or holiday, the previous business day would be deemed to be the Observation Date.

¹¹ *Id.*

¹² For example, if the actual return of the underlying index was 1.75% and the designated capped return for a Cliquet Option was 2%, the 1.75% value would be included (and not the 2%) as the value for the Observation Date. Using this same example, if the actual return of the underlying index was 3.30%, the 2% value would be included (and not the 3.30%) as the value for the Observation Date.

Jones Industrial Average Index and may clear Asian Options and Cliquet Options on other indices in the future.

New Risk Models

OCC would compute clearing member margin requirements on Asian Options and Cliquet Options using its STANS methodology. Since STANS uses option prices to compute clearing member margin charges, the risk model changes necessary to accommodate the clearance and settlement of Asian Options and Cliquet Options concern the addition of appropriate price models for Asian Options and Cliquet Options. Both Asian Options and Cliquet Options are index options, and while OCC computes the price of Current Index Flex Options on indices through standard pricing models (*i.e.*, the Black-Scholes pricing model) that consider: i) the value of the option's underlying index, ii) the implied volatility of an option's underlying index, iii) time until expiration, iv) risk-free interest rate, and v) the strike price of the option, certain modifications to OCC's existing pricing models for Current Index Flex Options are necessary in order to account for certain features of Asian Options and Cliquet Options, as described below, so that clearing member margin on such options may be computed through STANS. Accordingly, OCC proposes to implement the new pricing models described below in order to compute prices for Asian Options and Cliquet Options thereby allowing for the computation of clearing member margin requirements for such options through the STANS methodology.

Asian Options

Asian Options differ from the Current Index Flex Options currently cleared by OCC due to the option's exercise settlement amount being a function of the arithmetic average of the underlying index on certain observation dates. (In comparison, and in the case Current Index

Flex Options, the exercise settlement amount of the option is a function of the value of underlying index of a given option on the exercise date or expiration date, as applicable.) Based on this phenomenon, OCC proposes to add a new pricing model for Asian Options that would be a shifted lognormal model¹³ to accommodate the fact that Asian Options would have an arithmetic average value of the underlying index within the final exercise settlement amount calculation. The shifted lognormal model would account for the fact that the current underlying interest value on the expiration date of an Asian Option is based on an arithmetic average of prices, and not the value of the underlying index on the option's expiration date, which introduces non-normality into the probability distribution of contract payoffs.

With respect to the Asian Option shifted lognormal pricing model, OCC proposes to utilize a modified Black-Scholes pricing model with a shift parameter that employs the first three statistical "moments." In accordance with such model, the first moment is the expected value of an Asian Option's value based on the option's implied volatility. The second moment accounts for the statistical volatility of the option's value. The third moment accounts for the statistical skewness of the option's value. The moments are intended to account for variability in the arithmetic average value of an Asian Option's underlying index. The shifted lognormal distribution (*i.e.*, the lognormal probability distribution derived using the first through third moments above) is then priced through the standard Black-Scholes equation.¹⁴ The shift

¹³ See, Andreasen, J., "The pricing of discretely sampled Asian and lookback options: a change of numeraire approach," *Journal of Computational Finance*, September 2000. See also, Brigo, D., Mercurio, F., Rapidsarda, F., Scotti, R., "Approximated moment-matching dynamics for basket-options simulation," EFMA Lugano meetings, November 2001. See also, Haug, E.G. and Margrabe, W., "Asian Pyramid Power," *Wilmott Magazine*, March 2003.

¹⁴ In connection with using the standard Black-Scholes equation, OCC would also compute each of the three moments using a random shifted lognormal variable.

parameters are then adjusted out of the Black-Scholes price in order to derive a price for a given Asian Option that is appropriate to be utilized within the STANS methodology for the purposes of computing clearing member margin on Asian Options.

Cliquet Options

Similar to Asian Options, the price of a given Cliquet Options is based on monthly Observations of an underlying index. While a shifted lognormal model is an appropriate pricing model for Asian Options, the capped return feature of Cliquet Options makes the numerical solution to the Black-Scholes Partial Differential Equation¹⁵ the appropriate pricing model for Cliquet Options.¹⁶ OCC therefore proposes to add a Cliquet Option pricing model to its STANS methodology that would compute the numerical solution to the Black-Scholes Partial Differential Equation. Such a solution would provide OCC with the price of a given Cliquet Option that would be utilized within the STANS methodology for the purposes of computing clearing member margin requirements.

With respect to the pricing of a given Cliquet Option, and based on the capped return feature of Cliquet Options, OCC would identify the known implied volatility skew of standard options with the same underlying interest, a similar tenor and a similar amount of forward

¹⁵ The differential equation model incorporates boundary conditions that ensure that the value of a given Cliquet Option is consistent throughout the equation. (Boundary conditions are necessary in order to solve differential equations.)

¹⁶ See, Andreasen, J., "The pricing of discretely sampled Asian and lookback options: a change of numeraire approach." *Journal of Computational Finance* (2000). See also, Bernard, C., & Li, W. V., "Pricing and Hedging of Cliquet Options and Locally Capped Contracts." *SIAM Journal on Financial Mathematics*, 353-371 (2013). See also, Hagan, P. S., Kumar, D., & Lesniewski, A. S., "Managing Smile Risk." *Wilmott Magazine*, 84-108 (2002). See also, Hull, John C., "Options Futures and other Derivatives." McGraw Hill (2000). See also, Kjaer, M., "Fast pricing of cliquet options with global floor." *Journal of Derivatives*, 14(2), 47-60 (2006).

moneyiness¹⁷ of the given Cliquet Option. OCC's calculation of forward moneyiness would include an adjustment to account for any known Observations of the underlying interest for a given Cliquet Option. The known implied volatility skew would subsequently be utilized within the Black-Scholes Partial Differential Equation so that OCC would be able to derive the price of a given Cliquet Option, which would then be utilized within the STANS methodology for purposes of computing clearing member margin requirements on a Cliquet Options.

2. Statutory Basis

OCC believes that the proposed rule change is consistent with Section 17A(b)(3)(F) of the Act¹⁸ because it would assure the safeguarding of securities and funds which are in the custody and control of OCC. OCC believes that the proposed rule change assures the safeguarding of securities and funds in the custody and control of OCC because it would permit OCC to modify its risk models to accommodate the manner in which the exercise settlement amount for Asian Options and Cliquet Options is determined thereby permitting OCC to risk manage Asian Options and Cliquet Options through appropriate risk models. Such risk models would reduce the risk that clearing member margin assets would be insufficient should OCC need to use such assets to close-out the positions of a defaulted clearing member. In addition, the proposed rule change is consistent with Rule 17Ad-22(b)(2) under the Act,¹⁹ because the proposed rule change because would allow OCC to implement risk-based models and parameters, as described above, to set margin requirements for clearing members who trade

¹⁷ Forward moneyiness is the ratio of the strike to the current value of the implied forward for the index.

¹⁸ 15 U.S.C. 78q-1(b)(3)(F).

¹⁹ 17 CFR 240.17Ad-22(b)(2).

Asian Options and Cliquet Options. The proposed rule change is not inconsistent with any existing OCC By-Laws or Rules, including any rules proposed to be amended.

(B) Clearing Agency's Statement on Burden on Competition

OCC does not believe that the proposed rule change would impose a burden on competition.²⁰ As described above, the proposed rule change concerns implementation of certain pricing models in to the STANS methodology in order to facilitate the margining of clearing member positions in Asian Options and Cliquet Options. The proposed rule change would uniformly affect all clearing members who trade Asian Options and Cliquet Options and therefore OCC does not believe that proposed rule change would impose a burden on competition.

(C) Clearing Agency's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others

Written comments on the proposed rule change 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 45 days of the date of publication of this notice in the Federal Register or within such longer period up to 90 days (i) as the Commission may designate 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 or disapprove the proposed rule change, or

²⁰ 15 U.S.C. 78q-1(b)(3)(I).

(B) institute proceedings to determine whether the proposed rule change should be disapproved.

IV. 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. Please include File Number SR-OCC-2015-010 on the subject line.

Paper Comments:

- Send paper comments in triplicate to Elizabeth M. Murphy, Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-1090.

All submissions should refer to File Number SR-OCC-2015-010. 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 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 website viewing and printing in the Commission's Public Reference Section, 100 F Street, N.E., Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m.

Copies of such filing also will be available for inspection and copying at the principal office of OCC and on OCC's website at

http://www.theocc.com/components/docs/legal/rules_and_bylaws/sr_occ_15_010.pdf

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-2015-010 and should be submitted on or before [insert date 21 days from publication in the Federal Register].

For the Commission by the Division of Trading and Markets, pursuant to delegated Authority.²¹

Kevin M. O'Neill
Deputy Secretary

Action as set forth recommended herein
APPROVED pursuant to authority delegated by
the Commission under Public Law 87-592.
For: Division of Trading and Markets

By: _____

Print Name: _____

Date: _____

²¹ 17 CFR 200.30-3(a)(12).

Valery Balich

From: Scott Kalish
Sent: Friday, May 01, 2015 10:33 AM
To: Valery Balich
Subject: FW: Authority for Asian and Cliquet Options Rule Filing

Valery-

Please save this email with 2015-010.

Thanks,

Scott

From: Michael McClain
Sent: Wednesday, April 29, 2015 3:07 PM
To: Scott Kalish
Cc: Stephen Szarmack; Jean Cawley
Subject: RE: Authority for Asian and Cliquet Options Rule Filing

I agree with the recommendation. Approved.

Thanks
Mike

From: Scott Kalish
Sent: Wednesday, April 29, 2015 3:04 PM
To: Michael McClain
Cc: Stephen Szarmack; Jean Cawley
Subject: Authority for Asian and Cliquet Options Rule Filing

Mike-

This email is to request authorization to file the attached rule filing, which concerns risk model changes necessary to accommodate the clearance and settlement of Asian Options and Cliquet Options. Pursuant to the authority delegated to you by the Board, you may provide such authorization if you determine that the filing would not: (i) have a material adverse impact on OCC's risk profile or the management of risk by OCC; (ii) have a material adverse impact on the financial position or revenue of OCC; (iii) be significantly controversial among any of OCC's constituencies, including the general public; (iv) materially and adversely affect the services provided by OCC to its participants or the cost of those services; (v) impose a material administrative burden on participants; or (vi) involve difficult legal or regulatory issues that would be expected to create significant uncertainty as to regulatory approval. It is the recommendation of the Legal Department that the filing meets these criteria.

Please let me know if you have any questions.

Thanks,

Scott



Scott Kalish Senior Counsel / Legal

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