

Paper Comments

• Send paper comments in triplicate to Brent J. Fields, Secretary, Securities and Exchange Commission, 100 F Street NE., Washington, DC 20549–1090.

All submissions should refer to File Number SR–NASDAQ–2015–070. This file number should be included on the subject line if email 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 Web site viewing and printing in the Commission's Public Reference Room, 100 F Street NE., Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. 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–NASDAQ–2015–070 and should be submitted on or before August 6, 2015.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.¹⁶

Jill M. Peterson,

Assistant Secretary.

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SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–75427; File No. SR–OCC–2015–010]

Self-Regulatory Organizations; The Options Clearing Corporation; Order Granting Approval of 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

July 10, 2015.

I. Introduction

On May 1, 2015, The Options Clearing Corporation (“OCC”) filed with the Securities and Exchange Commission (“Commission”) the proposed rule change SR–OCC–2015–010 pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)¹ and Rule 19b–4 thereunder.² The proposed rule change was published for comment in the **Federal Register** on May 22, 2015.³ The Commission received no comment letters regarding the proposed change. For the reasons discussed below, the Commission is granting approval of the proposed rule change.

II. Description

OCC is proposing to implement new risk models to support the clearance and settlement of Asian-style and Cliquet flexibly structured options⁴ (“Asian Options” and “Cliquet Options,” respectively). OCC already clears other flexibly structured options (“Current Index Flex Options”)⁵ on various securities indices⁶ and risk manages

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b–4.

³ Securities Exchange Act Release No. 34–74966 (May 14, 2015), 80 FR 29784 (May 22, 2015) (SR–OCC–2015–010). The proposed rule change was published in the **Federal Register** on May 22, 2015, but was deemed published on May 1, 2015, pursuant section 19b(2)(E) of the Act.

⁴ Flexibly structured options permit the buyer and seller to negotiate and customize certain variable terms pursuant to exchange rules. See OCC By-Laws Article 1, section 1(F)(5). For example, 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. 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.

⁵ The exercise settlement amount for Current Index Flex Options 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.

⁶ OCC clears Current Index Flex Options on the S&P 500 Index, S&P 100 Index, Nasdaq 100 Index

clearing member positions (*i.e.*, computes margin requirements) through its STANS methodology.⁷

Asian Options 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.” OCC states that traders of Asian Options will select an observation date as well as an expiration date.⁸

Cliquet Options 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 of the underlying index on 12 predetermined “observation dates”¹⁰ (each an “Observation Date,” and the computed value an “Observation”).¹¹

and Russell 2000 Index, among other underlying indexes.

⁷ See <http://www.theocc.com/risk-management/margins/> for a description of OCC's margin methodology. See also OCC Rule 601.

⁸ OCC provides that, since Expiration dates must be within 50 to 53 calendar weeks from the date of listing, all Asian Options that it will clear will have a term of approximately one year. OCC explains that if the expiration date precedes the observation date in the final month, then the final “observation” will be the current underlying interest value on expiration date and not the observation date, and if one of the observation dates falls on a weekend or holiday, the value used will 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.

¹⁰ OCC states that the parties to a Cliquet Option will designate a set of Observation Dates for each contract as well as an expiration date. According to OCC, Observation Dates will 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 OCC states that there will be two Observation Dates in the final month (*i.e.*, the expiration date will always be an Observation Date) and ten other Observation Dates; one date in each of the ten months preceding the expiration month that will coincide with the Observation Date that was chosen by the parties to a Cliquet Option (not the expiration date). OCC explains that expiration dates must be within 50 to 53 calendar weeks from the date of listing, and that if one of the Observation Dates falls on a weekend or holiday, the previous business day will be deemed to be the Observation Date.

¹¹ OCC explains that, on each Observation Date, the exchange on which the Cliquet Options is listed will determine the actual return of the underlying index from observation period-to-observation period, which will be compared to the observation cap, an amount designated the parties to the Cliquet Option. OCC further states that the Capped Return

Continued

¹⁶ 17 CFR 200.30–3(a)(12).

OCC states that both Asian Options and Cliquet Options will be only available in European style exercises, and will be subject to OCC's expiration exercise procedures set forth in OCC Rule 805, as supplemented by OCC Rule 1804. In addition, OCC represents that it will initially clear Asian Options and Cliquet Options on the S&P 500 Index, Nasdaq 100 Index, Russell 2000 Index and Dow Jones Industrial Average Index and it may clear Asian Options and Cliquet Options on other indices in the future.

New Risk Models

As noted above, OCC will risk manage clearing member positions in Asian Options and Cliquet Options through its STANS methodology. Due to certain features of Asian Options and Cliquet Options described below, OCC proposed adding new pricing models into its STANS methodology so that OCC may compute appropriate margin requirements for clearing members holding positions in Asian Options and Cliquet Options.¹²

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, rather than the value of the underlying index of a given option on the exercise date or expiration date. Based on this phenomenon, OCC proposed to add a new pricing model for Asian Options that will be a shifted lognormal model¹³ to accommodate the fact that Asian Options will have an arithmetic average

for a given Observation Date will be the lesser of the actual observation period-to-observation period return or the observation cap. 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 will 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 will be included (and not the 3.30%) as the value for the Observation Date.

¹² OCC explains that it currently 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.

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.

value of the underlying index within the final exercise settlement amount calculation. OCC states that the shifted lognormal model will 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 proposed to utilize a modified Black-Scholes pricing model with a shift parameter that employs the first three statistical "moments." In accordance with such model, OCC states that 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, and the third moment accounts for the statistical skewness of the option's value. OCC represents that the moments are intended to account for variability in the arithmetic average value of an Asian Option's underlying index. OCC states that 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 OCC further states that 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. OCC states that 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

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

¹⁵ OCC represents that the differential equation model incorporates boundary conditions, which are necessary in order to solve differential equations, to ensure that the value of a given Cliquet Option is consistent throughout the equation.

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

therefore proposed to add a Cliquet Option pricing model to its STANS methodology that will compute the numerical solution to the Black-Scholes Partial Differential Equation. OCC represents that such a solution will provide OCC with the price of a given Cliquet Option that will 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 states that it will identify the known implied volatility skew of standard options with the same underlying interest, a similar tenor and a similar amount of forward moneyness¹⁷ of the given Cliquet Option. OCC represents that its calculation of forward moneyness will include an adjustment to account for any known Observations of the underlying interest for a given Cliquet Option. OCC further states that the known implied volatility skew will subsequently be utilized within the Black-Scholes Partial Differential Equation so that OCC will be able to derive the price of a given Cliquet Option, which will then be utilized within the STANS methodology for purposes of computing clearing member margin requirements on a Cliquet Options.

III. Discussion and Commission Findings

Section 19(b)(2)(C) of the Act¹⁸ directs the Commission to approve a proposed rule change of a self-regulatory organization if the Commission finds that such proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to such self-regulatory organization. Section 17A(b)(3)(F) of the Act¹⁹ requires, among other things, that the rules of a clearing agency are designed to assure the safeguarding of securities and funds which are in the custody or control of the clearing agency or for which it is responsible. In addition,

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).

¹⁷ OCC describes forward moneyness as the ratio of the strike to the current value of the implied forward for the index.

¹⁸ 15 U.S.C. 78s(b)(2)(C).

¹⁹ 15 U.S.C. 78q-1(b)(3)(F).

Rule 17Ad-22(b)(2)²⁰ requires registered clearing agencies, among other things, to establish, implement, maintain, and enforce written policies and procedures reasonably designed to use margin requirements to limit its credit exposures to participants under normal market conditions and use risk-based models and parameters to set margin requirements.

The Commission finds that the proposed rule change is consistent with Section 17A of the Act²¹ and the rules thereunder applicable to OCC. The proposal will integrate new pricing models into the STANS methodology to accommodate the manner in which the exercise settlement amount for Asian Options and Cliquet Options is determined. The Commission believes these changes are designed to enable OCC to accurately compute margin requirements for Asian Option and Cliquet Option positions through its STANS methodology, therefore reducing 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. The Commission therefore believes that the proposed rule change is reasonably designed to limit OCC's credit exposures to participants under normal market conditions and use risk-based models and parameters to set margin requirements, consistent with the requirements of Rule 17Ad-22(b)(2).²² Accordingly, the Commission believes that the proposed rule change is designed to assure the safeguarding of securities and funds in OCC's custody or control or for which it is responsible, consistent with section 17A(b)(3)(F) of the Act.²³

IV. Conclusion

On the basis of the foregoing, the Commission finds that the proposal is consistent with the requirements of the Act and in particular with the requirements of section 17A of the Act²⁴ and the rules and regulations thereunder.

It is therefore ordered, pursuant to section 19(b)(2) of the Act,²⁵ that the proposed rule change (File No. SR-OCC-2015-010) be, and hereby is, approved.²⁶

²⁰ 17 CFR 240.17Ad-22(b)(2).

²¹ 15 U.S.C. 78q-1.

²² 17 CFR 240.17Ad-22(b)(2).

²³ 15 U.S.C. 78q-1(b)(3)(F).

²⁴ 15 U.S.C. 78q-1.

²⁵ 15 U.S.C. 78s(b)(2).

²⁶ In approving the proposed rule change, the Commission considered the proposal's impact on efficiency, competition and capital formation. 15 U.S.C. 78c(f).

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.²⁷

Jill M. Peterson,

Assistant Secretary.

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SECURITIES AND EXCHANGE COMMISSION

[Release No. 34-75422; File No. SR-BATS-2015-52]

Self-Regulatory Organizations; BATS Exchange, Inc.; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change Related to Fees for Use of BATS Exchange, Inc.

July 10, 2015.

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 (the "Act"),¹ and Rule 19b-4 thereunder,² notice is hereby given that on July 1, 2015, BATS Exchange, Inc. (the "Exchange" or "BATS") 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 by the Exchange. The Exchange has designated the proposed rule change as one establishing or changing a member due, fee, or other charge imposed by the Exchange under section 19(b)(3)(A)(ii) of the Act³ and Rule 19b-4(f)(2) thereunder,⁴ which renders the proposed rule change effective upon filing with the Commission. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

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

The Exchange filed a proposal to amend its fees and rebates applicable to Members⁵ of the Exchange pursuant to Rule 15.1(a) and (c).

The text of the proposed rule change is available at the Exchange's Web site at www.batstrading.com, at the principal office of the Exchange, and at the Commission's Public Reference Room.

²⁷ 17 CFR 200.30-3(a)(12).

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

³ 15 U.S.C. 78s(b)(3)(A)(ii).

⁴ 17 CFR 240.19b-4(f)(2).

⁵ A Member is defined as "any registered broker or dealer that has been admitted to membership in the Exchange." See Exchange Rule 1.5(n).

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

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

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

1. Purpose

The Exchange proposes to modify the "Options Pricing" section of its fee schedule, effective immediately, in order to modify pricing charged by the Exchange's options platform ("BATS Options") including: (i) Amend footnote 2 to remove Professional⁶ orders from the Professional and Firm Penny Pilot Add Volume Tiers related to the pricing for Professional and Firm⁷ orders that add liquidity in Penny Pilot Securities;⁸ (ii) further amend footnote 2 to change the standards for meeting Tiers 1 and 2, changing the rebate for Tier 2, and adding a new Tier 3; (iii) amend the standard rebate associated with Fee Code PF for Firm orders that add liquidity in Penny Pilot Securities; (iv) create a new Fee Code NF for Firm orders that add liquidity in non-Penny Pilot Securities; (v) create a new footnote 8 titled "Firm Non-Penny Pilot Add Volume Tiers;" (vi) add a new Tier 3 to the Market Maker Penny Pilot Add Volume Tiers; (vii) amend the fees that the Exchange charges for orders routed by the Exchange for execution at other venues, including those associated with Fee Codes 2C, CC, CF, HF, and OF; and (viii) amend the Options Physical Connection Fees for both 1G and 10G physical ports.

Professional Orders in Penny Pilot Securities

The Exchange proposes to remove Professional orders from inclusion in the Professional and Firm Penny Pilot

⁶ "Professional" applies to any transaction identified by a Member as such pursuant to Exchange Rule 16.1.

⁷ "Firm" applies to any transaction identified by a Member for clearing in the Firm range at the OCC.

⁸ "Penny Pilot Securities" are those issues quoted pursuant to Exchange Rule 21.5, Interpretation and Policy .01.