

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34-56813; File No. SR-CBOE-2007-52)

November 19, 2007

Self-Regulatory Organizations; Chicago Board Options Exchange, Incorporated; Order Granting Approval of Proposed Rule Change as Modified by Amendment No. 1 Thereto Relating to \$1 Strikes for VXD and VXN Options and \$1 Strikes for RVX, VIX, VXD and VXN LEAPs

I. Introduction

On July 11, 2007, the Chicago Board Options Exchange, Incorporated (“CBOE” or “Exchange”) filed with the Securities and Exchange Commission (“Commission”) a proposed rule change, pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> to permit the Exchange to: (i) list and trade CBOE Dow Jones Industrial Average Volatility Index (“VXD”) options and Nasdaq-100 Volatility Index (“VXN”) options in \$1 strike price intervals; and (ii) list and trade CBOE Russell 2000 Volatility Index (“RVX”), VXD, VXN and CBOE Volatility Index (“VIX”) LEAPs in \$1 strike price intervals. On August 20, 2007, CBOE filed Amendment No. 1 to the proposed rule change. The proposed rule change, as modified by Amendment No. 1, was published for comment in the Federal Register on September 24, 2007.<sup>3</sup> The Commission received one comment letter regarding the proposal.<sup>4</sup> This order approves the proposed rule change, as amended.

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

<sup>2</sup> 17 CFR 240.19b-4.

<sup>3</sup> See Securities Exchange Act Release No. 56449 (September 17, 2007), 72 FR 54306 (“Notice”).

<sup>4</sup> See Letter from John C. Nagel, Director & Associate General Counsel, Citadel Investment Group, L.L.C. (“Citadel”) to Nancy Morris, Secretary, Commission, dated November 2, 2007 (“Citadel Comment”).

## II. Description of the Proposal

In its proposal, CBOE proposed rules to permit the Exchange to list and trade options on the CBOE Dow Jones Industrial Average Volatility Index ("VXD") and the Nasdaq-100 Volatility Index ("VXN") in \$1 strike price intervals within certain parameters described below.<sup>5</sup> Additionally, the rule change proposed to permit the Exchange to list and trade CBOE Russell Volatility Index ("RVX"), CBOE Volatility Index ("VIX"), VXD, and VXN LEAPs in \$1 strike price intervals within certain parameters also described below.

### \$1 Strikes for VXD and VXN Options

Similar to other volatility indexes, VXD and VXN are calculated using real-time quotes of out-of-the-money and at-the-money and second nearly index puts and calls on the Dow Jones Industrial Index ("DJIA") and the Nasdaq-100 Index ("NDX") respectively. VXD and VXN are quoted in absolute numbers that represent the volatility of the DJIA and the NDX respectively in percentage points per annum. For example, a VXD level of 11.63 (the closing value of the VXD on April 26, 2007) represents an annualized volatility of 11.63% in the DJIA Index and a VXN level of 15.97 (the closing value of the VXN on April 26, 2007) represents an annualized volatility of 15.97% in the NDX.<sup>6</sup>

According to CBOE, as with other proprietary CBOE volatility indexes, VXD and VXN levels fluctuate quite differently than individual equity securities or indexes of individual equity securities. Specifically, indexes such as VXD and VXN that track volatility are "mean-reverting,"

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<sup>5</sup> The Commission previously approved the listing and trading of VXD and VXN options, which the Exchange anticipates trading shortly. See Securities Exchange Act Release No. 49563 (April 14, 2004), 69 FR 21589 (April 21, 2004) (approving SR-CBOE-2003-40).

<sup>6</sup> In its original filing, CBOE inadvertently reported annualized volatility percentages of 11.637% (rather than 11.63%) and 15.77% (rather than 15.97%). Telephone conversation between Jennifer Yeadon, Senior Attorney, CBOE and Geoffrey Pemble, Special Counsel, Division of Market Regulation, Commission, on November 15, 2007.

a statistical term used to describe a strong tendency for the volatility index to move toward its long-term historical average level. In other words, at historically low volatility index levels, there is a higher probability that the next big move will be up rather than down. Conversely, at historically high volatility index levels, the next big move is more likely to be down rather than up.

Thus, as represented by CBOE, volatility indexes such as VXD and VXN tend to move within set ranges, and even when a level moves outside that range, the tendency towards mean-reversion often results in the volatility index returning to a level within the range. In the case of VXD, the historical average index value since January 2, 2002 is 16.92. Since January 2002, VXD has fluctuated in a range between 9.28 and 41.85. Furthermore, VXD closed under 25 for 85% of the days on which the level was calculated since 2002 (1,171 days out of a total of 1,372 days) and has closed under 30 for 91% of the days on which the level was calculated since 2002 (1,245 days out of a total of 1,372 days). VXD has closed between 10 and 25 for 82% of the days on which the level was calculated since 2002 (1,130 days out of a total of 1,372 days).

In the case of VXN, the historical average index value since January 2, 2002 is 26.14. Since January 2002, VXN has fluctuated in a range between 12.61 and 60.66. Furthermore, VXN closed under 25 for 61% of the days on which the level was calculated since 2002 (822 days out of a total of 1,355 days) and has closed under 30 for 73% of the days on which the level was calculated since 2002 (987 days out of a total of 1,355 days). VXN has closed between 15 and 30 for 66% of the days on which the level was calculated since 2002 (895 days out of a total of 1,355 days).

Because of the generally limited range in which VXD and VXN have fluctuated, CBOE proposed to list series at \$1 or greater strike price intervals for each expiration on up to 5 VXD

and VXN option series above and 5 VXD and VXN option series below the current index level.<sup>7</sup> As the current index level of VXD and VXN moves from the exercise price of those VXD and VXN option series that already have been opened for trading on the Exchange, the Exchange may open for trading additional series at \$1.00 or greater strike price intervals for each expiration on up to 5 VXD and VXN option series above and 5 VXD and VXN option series below the current index level.

Additionally, the Exchange proposed that it would not list series with \$1 intervals within \$0.50 of an existing \$2.50 strike price with the same expiration month (e.g., if there is an existing 12.50 strike, the Exchange would not list a 12 or 13 strike).

\$1 Strike LEAPs for RVX, VIX, VXN and VXD.

Similarly, the Exchange proposed rules to permit \$1 strike intervals for RVX, VIX, VXD and VXN LEAPs. According to CBOE, typically LEAPs strike prices moves in increments of \$2.50 and \$5.00 and such incremental pricing is suited for long-term contracts on traditional equity and stock index products. However, as discussed above, the levels of volatility indexes fluctuate quite differently than equities and stock indexes. As a "mean-reverting" product, volatility indexes gravitate towards their historical average levels; thus, limiting the range of movement.

Consequently, the Exchange proposed to list series at \$1 or greater strike price intervals for each expiration on up to 5 RVX, VIX, VXD and VXN LEAPs series above and 5 RVX, VIX, VXD and VXN LEAPs series below the current index level. As the current index level of RVX,

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<sup>7</sup> The Commission previously approved the listing of VIX and RVX options at \$1 strike intervals. See Securities Exchange Act Release No. 54192 (July 21, 2006), 71 FR 43251 (July 31, 2006) (approving SR-CBOE-2006-27); see also Securities Exchange Act Release No. 55425 (March 8, 2007), 72 FR 12238 (March 15, 2007) (approving SR-CBOE-2006-73).

VIX, VXD and VXN moves from the exercise price of those RVX, VIX, VXD and VXN LEAPs series that already have been opened for trading on the Exchange, the Exchange may open for trading additional series at \$1.00 or greater strike price intervals for each expiration on up to 5 RVX, VIX, VXD and VXN LEAPs series above and 5 RVX, VIX, VXD and VXN LEAPs series below the current index level.

For purposes of adding strike prices at \$1.00 or greater strike price intervals, as well as at \$2.50 or greater strike price intervals, the "current index level" would be defined as the "implied forward level" of RVX, VIX, VXN and VXD for each expiration.<sup>8</sup>

### Capacity

CBOE represented that it has analyzed its capacity and represents that it believes the Exchange and the Options Price Reporting Authority have the necessary systems capacity to handle the additional traffic associated with the listing and trading of the \$1 strikes for VXD and VXN option and of the \$1 strikes for RVX, VIX, VXD and VXN LEAPs.

### III. Summary of Comment Received

The Commission received one comment letter regarding the proposed rule change, from Citadel. Citadel supported the adoption of the proposal and, in general, the expansion of \$1 strike price intervals, stating that expansion of products available to exchanges and investors was “fundamentally pro-competitive” and that, moreover, “\$1 strike price intervals allow traders and investors to customize the risk profiles of their trading positions more precisely, and thus reduce the cost of trading.”<sup>9</sup> Citadel commented favorably about the Commission’s prior pilot program to allow \$1 strike intervals,<sup>10</sup> and advocated that the Commission “promote the expansion of \$1

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<sup>8</sup> See Notice, supra n. 3, for further discussion of this methodology.

<sup>9</sup> See Citadel Comment at 1.

<sup>10</sup> Id. at 2.

strike programs even if doing so requires curtailing or slowing further expansion of penny quoting.”<sup>11</sup> With regard to the proposal, Citadel noted that “permitting CBOE to list and trade options that are the subject of the Proposal in \$1 strike intervals would benefit the public, including retail investors,” for many of the same reasons \$1 strike options do, as well as for reasons specific to volatility options, such as the “mean-reverting” characteristics of volatility indexes.<sup>12</sup> Similarly, Citadel supported the listing and trading of LEAPs on certain volatility indexes, as proposed by CBOE, arguing that the “case for strike-intervals for LEAPs on volatility indexes is even stronger than the case for narrow-interval LEAPs on single stocks.”

#### IV. Discussion

After careful review, the Commission finds that CBOE’s proposal to (i) list and trade CBOE Dow Jones Industrial Average Volatility Index (“VXD”) options and Nasdaq-100 Volatility Index (“VXN”) options in \$1 strike price intervals; and (ii) list and trade CBOE Russell 2000 Volatility Index (“RVX”), VXD, VXN and CBOE Volatility Index (“VIX”) LEAPs in \$1 strike price intervals is consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange<sup>13</sup> and, in particular, the requirements of Section 6 of the Act<sup>14</sup> and the rules and regulations thereunder. The Commission believes that CBOE’s proposal gives options investors the ability to make additional investment choices in a manner consistent with the requirements of Section 6(b)(5) of the Act.<sup>15</sup> The Commission further believes that trading options and LEAPs in \$1 strike price

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<sup>11</sup> Id. at 3.

<sup>12</sup> Id.

<sup>13</sup> In approving this proposed rule change, the Commission has considered the proposed rule’s impact on efficiency, competition, and capital formation. 15 U.S.C. 78c(f).

<sup>14</sup> 15 U.S.C. 78f.

<sup>15</sup> 15 U.S.C. 78f(b)(5).

intervals on these volatility indexes provides investors with an important trading and hedging mechanism.

As explained by CBOE, volatility indexes such as the RVX, VIX, VXD and VXN fluctuate in a narrow range, and thus, the Commission believes that the implementation of \$1 strike price intervals on options and LEAPs based on these indexes, within the parameters detailed in CBOE's proposal, is appropriate.

The Commission also notes CBOE's representations that it possesses the necessary systems capacity to support new series that would result from the introduction of \$1 strikes for VXD and VXN options and of the \$1 strikes for RVX, VIX, VXD and VXN LEAPs and that CBOE also has been informed that OPRA has the capacity to support such offerings.

V. Conclusion

IT IS THEREFORE ORDERED, pursuant to Section 19(b)(2) of the Act,<sup>16</sup> that the proposed rule change (SR-CBOE-2007-52), as amended, be, and hereby is, approved.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>17</sup>

Florence E. Harmon  
Deputy Secretary

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<sup>16</sup> 15 U.S.C. 78s(b)(2).

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