SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–43621; File No. 4–434]

RIN 3235–AH92

Options Price Reporting Authority

AGENCY: Securities and Exchange Commission.

ACTION: Adoption of amendments to national market system plan.

SUMMARY: The Securities and Exchange Commission (''SEC'' or ''Commission'') is adopting amendments to the Options Price Reporting Authority Plan for Reporting of Consolidated Options Last Sale Reports and Quotation Information. The amendments establish a formula, as a short-term solution to OPRA capacity shortages, to allocate the message capacity of the OPRA system among the participant exchanges during peak usage periods.

EFFECTIVE DATE: January 2, 2001.

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SUPPLEMENTARY INFORMATION:

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I. Executive Summary

In Section 11A of the Securities Exchange Act of 1934 (''Act''), Congress directed the Commission to assure, among other things, the availability to broker-dealers and investors of quotation and transaction information in securities.[1] It is this directive that makes transparency and, in particular, the real-time, public dissemination of trade and quotation information a central feature of the U.S. securities markets. Accordingly, participants in the options markets today have access to a consolidated stream of quotation and transaction information for any of the thousands of options classes that trade. This transparency, in turn, contributes to efficient price discovery, offsets the fragmentation of buying and selling interest on multiple exchanges, and facilitates the best execution of customers' orders by broker-dealers.

Market information, however, is only of use to market participants if it is disseminated in a timely fashion. Unfortunately, the amount of market data generated by the options markets is dangerously close to exceeding the capacity of the Options Price Reporting Authority (''OPRA'') system to do this.[2] In fact, prior to recent increases in OPRA capacity, there have been periods when the amount of options market data sent by the exchanges to OPRA exceeded OPRA capacity to publicly disseminate it on a real-time basis. When this occurs, the only market participants with up-to-date quote and trade information are those physically on the floor of a particular exchange. Those participants then have an informational advantage over participants—including investor—not physically on the particular exchange floor. This result reduces market transparency, impedes efficient price discovery, and is inconsistent with the goal of fair competition among brokers and dealers and exchange markets.

During the past year, the options exchanges have agreed, on an *ad hoc* basis, to allocate OPRA capacity among themselves when demand for the scarce capacity exceeds the supply available. Currently, however, the options exchanges do not have an agreement on how to limit the amount of market data each will send to OPRA. Because OPRA has recently expanded its capacity to 8,000 messages per second, there have been no strains on OPRA capacity.[3] Nevertheless, the full implementation of decimal pricing, the dissemination of quotations with size, and the complete roll-out of ISE's new listings, is expected to once again strain OPRA capacity limits.

For this reason, the Commission is adopting amendments to the OPRA Plan to allocate, among the options exchanges, OPRA's peak period message handling capacity.[4] The Commission believes that these amendments are necessary because of the OPRA participants' inability to agree on how to allocate capacity among themselves and the inability to increase ORPA's systems capacity within the short-term to a level sufficient to permit the exchanges to generate message traffic without restraint. The allocation of OPRA capacity among the exchanges effectively puts a cap on the number of messages that each exchange can send to OPRA when the exchanges' aggregate demand for OPRA capacity exceeds its supply. Only by limiting each exchange to a maximum number of messages per second that it can send to OPRA, during periods when the demand on OPRA systems capacity exceeds the supply, will all broker-dealers and investors have available to them accurate and timely information with respect to quotations for and transactions in options. Further, the Commission believes that the formula it is adopting today allocates capacity in a more objective and transparent manner, is consistent with the statutory objectives of fair competition among markets,[5] and assures the availability to brokers, dealers, and investors of information

[1] 15 U.S.C. 78k–1.

[2] The OPRA Plan for Reporting of Consolidated Options Last Sale Reports and Quotation Information (''OPRA Plan'') is a national market system plan approved by the Commission pursuant to Section 11A of the Act and Rule 11Aa3–2 thereunder. *See* Securities Exchange Act Release No. 17638 (March 18, 1981). The OPRA Plan provides for the collection and dissemination of last sale and quotation information on options that are traded on the participant exchanges. The five signatories to the OPRA Plan that currently operate an options market are the American Stock Exchange (''Amex''); the Chicago Board Options Exchange (''CBOE''); the International Securities Exchange (''ISE''); the Pacific Exchange (''PCX''); and the Philadelphia Stock Exchange (''Phlx''). The New York Stock Exchange is a signatory to the OPRA Plan, but sold its options business to the CBOE in 1997. *See* Securities Exchange Act Release No. 38542 (April 23, 1997), 62 FR 23521 (April 30, 1997).

[3] Currently, OPRA systems capacity is 8,000 messages per second, while the exchanges' peak demand to date has approached 3,700 messages per second.

[4] In May 2000, the Commission proposed amendments to the OPRA Plan to allocate OPRA systems capacity among the options exchanges during peak usage periods. *See* Securities Exchange Act Release No. 42755 (May 4, 2000), 65 FR 30148 (May 10, 2000) (''Proposing Release'').

[5] *See* Section 11A(a)(1)(C)(ii) of the Act, 15 U.S.C. 78k–1(a)(1)(C)(ii).

with respect to quotations for and transactions in options.[6]

Although a capacity allocation formula inhibits exchanges' ability to generate and send to OPRA unlimited quotations, this is a direct consequence of insufficient OPRA capacity to handle peak message volumes. In this context, the Commission must balance this concern against investors' and other market participants' interest in having timely and reliable market information to use to make informed investment and trading decisions. The Commission is adopting these amendments as a short-term solution and only after the OPRA participants themselves have been unable to reach agreement on an objective capacity allocation formula. As a more permanent solution, the Amex, CBOE, PCX, and Phlx have consented, as part of their settlement of an enforcement action with the Commission, to, among other things, modify the organizational structure and operation of OPRA so that each exchange will independently determine the amount of capacity that it will obtain.[7]

II. Background

In 1981, the Commission approved the OPRA Plan as a national market system plan, pursuant to Sections 11A(a)(2) and 11A(a)(3)(B) of the Act.[8] The OPRA Plan governs the process by which options market data are collected from participant exchanges, consolidated, and disseminated.[9] Consolidated data, when it is disseminated in a timely manner, enable broker-dealers and investors to know the best price that is currently available for a particular product. It assists customers in setting the terms of their orders and in monitoring how well their brokers execute their orders. Consolidated data also assist investors' brokers to obtain, as well as exchange market makers and specialists to provide, the best execution possible for an order.

The OPRA policy committee composed of representatives from each participant exchange implements and, subject to Commission approval, amends the policies and procedures set forth in the OPRA Plan. The OPRA committee selected the Securities Industry Automation Corporation (''SIAC'') as the facility for gathering the last sale and quote information from each of the participant exchanges and consolidating and disseminating such data to approved vendors. All of the transactions executed on, and price quotations for options generated by, each options exchange are communicated to the public by OPRA through the facilities of its exclusive processor, SIAC. The messages are sent to OPRA and distributed to market data vendors on a consolidated basis for use by options market participants, including retail investors, broker-dealers, and the exchanges themselves.

Each trade that is executed on an options exchange, as well as each price change quoted on an options exchange, is reported to OPRA as a ''message.'' The options markets generate messages for a substantial number of products. Currently, there are approximately 3,900 equity securities and indexes underlying listed options products, and more than 178,000 individual options series.[10] Trade and quote data are generated continuously during the hours that markets are open for each options product listed on each options exchange.

Quote message traffic represents the vast majority of the options message traffic generated.[11] Generally, quotes are generated automatically for individual options series based on changes in the underlying stock price or index value. In other words, every time a price changes for a particular equity security, the quotes for all of the options on that security or an index in which that security is represented may be automatically updated on each exchange that trades those options. This enormous amount of quote message traffic burdens the OPRA system, and threatens to compromise the reliability of options market data disseminated to market participants, including retail investors.

The number of messages generated by the exchanges on a daily basis has been growing exponentially. In January 1999, OPRA reported an average of only about 17 million messages per day. By January 2000, OPRA reported an average of 40 million messages per day.[12] As options message traffic has increased over the last few years, OPRA has directed SIAC to implement systems enhancements to accommodate the additional message traffic. Over the last year, however, it has become increasingly apparent that the message traffic expected to be generated by the options exchanges cannot be accommodated by the planned enhancements to the OPRA system.[13]

The options exchanges have, individually, implemented a number of internal quote message mitigation strategies and the Commission expects the options exchanges to continue to consider and implement other quote message mitigation strategies as both long-term and short-term solutions. Nonetheless, quote message traffic continues to strain OPRA systems capacity. The options exchanges have responded to this capacity crisis by agreeing to allocate existing OPRA systems capacity among themselves during peak periods, while continuing to work on other short-term mitigation strategies, such as delisting classes with little or no open interest and developing a system that would only disseminate quotes upon request for inactive options classes. To date, the options markets have agreed, on six occasions, to allocate the then-existing OPRA systems capacity among themselves during peak periods through temporary amendments to the OPRA Plan.[14] The capacity allocations implemented by the options exchanges over the past nine months have been based loosely on the historical peaks experienced by each

[6] *See* Section 11A(a)(1)(C)(iii) of the Act, 15 U.S.C. 78k–1(a)(1)(C)(iii).

[7] *See* In the Matter of Certain Activities of Options Exchanges, Securities Exchange Act Release No. 43268, September 11, 2000; Administrative Proceeding File No. 3–10282 (''SEC Order'').

[8] 15 U.S.C. 78k–1(a)(2) and 15 U.S.C. 78k–1(a)(3)(B); *see also* Securities Exchange Act Release No. 17638 (March 18, 1981), as amended; *see, e.g.*, Securities Exchange Act Release No. 40767 (December 9, 1998), 63 FR 69354 (December 16, 1998).

[9] In 1976, the Commission approved OPRA's registration as a securities information processor. *See* Securities Exchange Act Release No. 12035 (January 22, 1976), 41 FR 4372.

[10] A series is a class of options, either all puts or all calls, on the same underlying security that have the same exercise price and maturity date.

[11] For example, in February 2000, the average number of quotes per day was 37.5 million, while the average number of trades per day was 183,000.

[12] As discussed below, this tremendous increase in message traffic may be attributed, in part, to the increased volume on the exchanges, increased volatility in the underlying equity securities, and increased multiple trading of previously exclusively-traded options products across the options exchanges. Dramatic growth in options quote message traffic is expected to continue in the near future as ISE continues its roll-out of the top 600 most actively-traded options classes, products begin to trade in decimals rather than fractions, and quotes are disseminated with size.

[13] OPRA systems capacity was expanded to 5,000 messages per second, and subsequently, 8,000 messages per second, on July 17, 2000 and October 2, 2000, respectively. Planned enhancements to the OPRA system are expected to increase total systems capacity to 12,000 messages per second by year-end.

[14] *See* Securities Exchange Act Release Nos. 42328 (January 11, 2000), 65 FR 2988 (January 19, 2000) (order approving File No. SR–OPRA–00–01); 42362 (January 28, 2000), 65 FR 5919 (February 7, 2000)(order approving file No. SR–OPRA–00–02); 42493 (March 3, 2000), 65 FR 12597 (March 9, 2000)(order approving File No. SR–OPRA–00–03).); 42779 (May 12, 2000), 65 FR 31950 (May 19, 2000)(order approving File No. SR–OPRA–00–04); 42849 (May 26, 2000), 65 FR 36180 (June 7, 2000)(order approving File No. SR–OPRA–00–05); and 43063 (June 21, 2000), 65 FR 46752 (July 31, 2000)(order approving File No. SR–OPRA–00–07)

options market, and determined through negotiations among the markets. The options exchanges have, however, been unable to agree to anything other than short-term, *ad hoc* allocations that failed to ensure the continued availability of quote and trade information to other market participants [15] by providing incentives for the exchanges to reduce excessive quoting of existing listings and to add new listings only when there was a sound business rationale. The options exchanges, however, failed to agree to an allocation of capacity following the expiration of the most recent temporary amendment to the OPRA Plan.[16] As noted above, pursuant to the SEC Order, the Amex, CBOE, PCX, and Phlx are required, to act jointly with the ISE, by September 11, 2001, to amend the OPRA Plan to modify the structure and operation of OPRA so that each exchange will independently determine the amount of capacity that it will obtain.[17] Because the Commission is concerned that the options exchanges will be unable, in the near future, to agree on how to allocate capacity for the period prior to development and implementation of a means for each exchange to contract for its own planned capacity requirements, the Commission is adopting these amendments to the OPRA Plan as a methodology by which the limited OPRA systems capacity available will be allocated.

III. Description of Proposal

In May 2000, the Commission proposed two alternative capacity allocation formulae, briefly described below, to be used in the short-term to allocate OPRA systems capacity among the options exchanges during peak usage periods.[18]

Proposed Alternative A was based on the concept that an exchange should receive a portion of the available systems capacity only for those options classes in which the exchange's trading reached a minimum threshold (''Included Classes''). The Commission proposed that an options class be considered an Included Class for an exchange, if during a three-month period, that exchange traded an average of: (1) 15 trades per day, if the class is multiply-listed, or (2) 30 trades per day, if the class is exclusively-listed. The Commission requested comment on the proposed definition of Included Class. Capacity would then be allocated during peak periods to each exchange for which an options class is an Included Class based on the average quotation volume across all markets for which the particular class was an Included Class during the first half-hour of the trading day. To permit new entrants a fair opportunity to compete with existing exchanges, the Commission's Proposed Alternative A provided that all options classes listed on an exchange that had been operating for fewer than nine months be Included Classes.

Proposed Alternative B was based on an equal allocation of OPRA systems capacity among the options exchanges, with adjustments based on the exchange's ratio of total quotes to its total contract volume. The fewer quotes per contract traded on an exchange, the greater the allocation that exchange would receive. To allow exchanges to list new options classes without being penalized in the determination of how capacity is allocated, any options classes listed by an exchange during the preceding calendar quarter would be excluded from the ratio calculation. The equal allocation would be adjusted by an exchange's deviation from the average ratio of total quotes to its total contract volume, multiplied by a dampening factor. The Commission proposed that the dampening factor be 10% for the first adjustment calculation. If, after the first calculation, any exchange's capacity allocation fell below a pre-determined minimum, which the Commission proposed to be 15% of all OPRA capacity, the dampening factor would be reduced by one percent and an adjustment recalculation performed. Recalculations would continue, reducing the dampening factor by 1% for each successive recalculation, until all exchanges have at least the pre-determined minimum capacity allocation.

IV. Description of Amendment Being Adopted

The capacity allocation formula adopted today, which will be calculated quarterly and applied only when the exchanges' demand for OPRA capacity exceeds its supply, combines a number of elements found in the two alternative formulae proposed by the Commission, and incorporates several modifications recommended by commenters. The Commission recognizes that there is no one ideal capacity allocation methodology and, therefore, as suggested by one commenter, has determined to divide OPRA systems capacity into separate portions and allocate those portions based on different criteria.

The formula adopted by the Commission allocates an equal portion of one-third of available OPRA systems capacity to each options exchange.[19] This means that if there are five options exchanges, each exchange would have available at least 533 messages per second with the current 8,000 message per second capacity of OPRA. When OPRA capacity is expanded to 12,000 messages per second, as it is expected to be by year-end, each exchange would have available at least 800 messages per second. While this amount of capacity may not be sufficient to fully satisfy any of the exchanges' capacity needs, the Commission believes it is a fair amount of capacity to be allocated solely on the basis of being a registered exchange operating an options market. The Commission believes that it is important to assure each options exchange at least a minimum amount of capacity to disseminate its market data, in order for the formula being adopted today to be consistent with the statutory objectives of fair competition and the availability to brokers, dealers, and investors of information with respect to quotations for and transactions in securities.[20]

The capacity remaining after the allocation described above and any allocation to new exchanges as described below, will be allocated among the exchanges based upon a variation of Proposed Alternative A, as set forth in the Proposing Release.[21] Specifically, this remaining OPRA systems capacity will be allocated to the exchanges based on the average quotation message traffic generated during the last full hour of the trading day, 3 p.m. to 4 p.m. eastern time. An exchange will receive an allocation only for those options classes for which at least a minimum number of customer contracts [22] are traded on that exchange.

[15] *See* Section 11A(a)(1)(C)(iii) of the Act, 15 U.S.C. 78k–1(a)(1)(C)(iii).

[16] Consequently, the options exchanges currently are not operating under a capacity allocation plan. *See* letter from Joseph Corrigan, Executive Director, OPRA, to Deborah Flynn, Senior Special Counsel, Division of Market Regulation, Commission, dated September 25, 2000.

[17] *See supra* note .

[18] *See* Proposing Release, *supra* note 4.

[19] As described below, however, an options exchange that begins trading for the first time will receive an allocation of capacity equal to 40% of OPRA systems capacity divided by the total number of options exchanges. For each quarter thereafter, an exchange operating for fewer than 270 calendar days elects to receive this fixed allocation, or to receive an allocation based on the same formula as applied to other exchanges. *See* OPRA Plan, Section V (d) and (e). The equal portion of one-third of available OPRA systems capacity will be calculated using the total number of options exchanges, even though allocated only to those exchanges that do not receive a fixed new exchange allocation. *See* OPRA Plan, Section V (d)(ii).

[20] *See* Section 11A(a)(1)(C)(ii) and (iii) of the Act, 15 U.S.C. 78k-1(a)(1)(C)(ii) and (iii).

[21] *See* Proposing Release *supra* note .

[22] For purposes of the formula, the term ''customer contract'' is defined as an options

The formula does not allocate capacity to an exchange for a particular options class in which the exchange's average daily contract volume [23] does not exceed 15 customer contracts for multiply-listed options classes and 25 customer contracts for exclusively-listed options classes.[24] Exchanges will not be given additional capacity for new listings that do not trade the minimum number of customer contracts set forth above.

Because new exchanges may not have had time to develop their business to attract a sufficient number of customer contracts to meet the minimum customer contract volume set forth above, instead of receiving an allocation of capacity based on the formula described above, new exchanges will receive during their first quarter of operation, and may elect to receive thereafter, an allocation of OPRA systems capacity slightly greater than an equal portion of one-third of available capacity. Specifically, an options exchange that has been operating for fewer than 270 calendar days may choose to receive a capacity allocation (1) equal to 40% of available OPRA systems capacity divided by the total number of options exchanges (''New Exchange Share''); or (2) based on the same formula used to determine the capacity allocated to all other exchanges. A new options exchange will make an election five business days following the end of a calendar quarter regarding which method under which it wishes to receive a capacity allocation. During a new exchange's first quarter of operation, or any portion thereof, it will receive an allocation equal to 40% of available capacity divided by the total number of options exchanges.[25] New markets will be treated the same as existing exchanges after the end of their first year of operation.[26]

V. Discussion

A. Introduction

In Section 11A of the Act,[27] Congress directed the Commission to facilitate the development of a national market system consistent with the objectives of the Act.[28] In particular, Section 11A(a)(3)(B) of the Act authorizes the Commission ''by rule or order, to authorize or require self-regulatory organizations to act jointly with respect to matters as to which they share authority under this title in planning, developing, operating, or regulating a national market system (or a subsystem thereof) or one or more facilities.'' [29] The procedures regarding filing amendments to a national market system plan are set forth under Rule 11Aa3–2.[30] Rule 11Aa3–2 permits the Commission, on its own initiative, to propose amendments to an effective national market system plan,[31] such as the OPRA Plan, and establishes the procedures for doing so.[32] The Commission may adopt such an amendment if it finds that the amendment ''is necessary or appropriate in the public interest, for the protection of investors and the maintenance of fair and orderly markets, to remove impediments to, and perfect the mechanisms of, a national market system, or otherwise in furtherance of the purposes of the Act.'' [33]

The Commission proposed amendments to the OPRA Plan on its on initiative in accordance with Rule 11Aa2–3. After carefully considering the issues raised by the comment letters, the Commission is adopting an amendment to the OPRA Plan that establishes a formula for allocating OPRA systems capacity among the OPRA participants during peak usage periods.[34] The Commission notes that the capacity allocation formula described in this release should be necessary only for the short-term. The Amex, CBOE, PCX, and Phlx have committed, as part of their settlement with the Commission, to act jointly with the ISE, to modify by September 11, 2001, the structure and operation of OPRA so that each exchange will independently determine the amount of capacity that it will obtain. Until implementation of this new structure, however, the Commission believes that the certainty and objectivity of the capacity allocation formula being adopted today is needed to ensure that investors have available timely and accurate options market data. The possibility that options exchanges will exceed the capacity limits currently available jeopardizes the timeliness and accuracy of options market data and, consequently, the protection of investors and the maintenance of fair and orderly markets.

B. Comments on Commission's Proposal to Allocate Capacity

In response to the Proposing Release, the Commission received eight comment letters, representing the views of the five options exchanges and three other interested parties.[35] Although none of the commenters recommended the adoption of the Commission's proposed alternatives, four commenters generally supported the concept of an allocation formula.[36] Moreover, two commenters generally supported the concept of allocating OPRA systems capacity based on the number of listings on an exchange that satisfy a minimum level of trading volume, as set forth in

contract executed on an options exchange and cleared in a customer account at a registered clearing agency. *See* OPRA Plan, Section III (m).

[23] The exchange's average daily contract volume in an options class will be calculated based on the number of trading days such class is listed on such exchange during the calendar quarter.

[24] The term ''options class'' is defined in OPRA Plan, Section III (n), and includes options on groups or indexes of securities.

[25] If an options exchange begins to trade other than on the first of February, May, August, or November, each other options exchange's capacity will be recalculated pursuant to Section V (d)(ii)(B) of the OPRA Plan, using data from the most recent calendar quarter, except that any options exchange that was qualified for, and elected to receive, the New Exchange Share in the most recent quarterly allocation, will receive a New Exchange Share. *See* OPRA Plan, Section V(e).

[26] Because a new exchange that has been operating for fewer than 270 days will make, on the fifth business day following the end of a calendar quarter, its election for the next allocation period, a New Exchange Share may be allocated to an exchange for its first year of operation.

[27] 15 U.S.C. 78k–1.

[28] In Section 11A(a)(1)(C)(iii) of the Act, Congress found ''that it is in the public interest and appropriate for the protection of investors and the maintenance of fair and orderly markets to assure the availability to brokers, dealers, and investors of information with respect to quotations for and transactions in securities.'' 15 U.S.C. 78k–1(a)(1)(C)(iii).

[29] 15 U.S.C. 78k–(a)(3)(B).

[30] 17 CFR 240.11Aa3–2.

[31] 17 CFR 240.11Aa3–2(b)(2). Further, Paragraph (c)(2) of Rule 11Aa3–2 requires that promulgation of an amendment to an effective national market system plan initiated by the Commission be by rule. 17 CFR 240.11Aa3–2(c)(2).

[32] 17 CFR 240.11Aa3–2.

[33] 17 CFR 240.11Aa3–2(c)(2).

[34] Pursuant to paragraph (c)(2) of Rule 11Aa3–2 under the Act, the Commission designates up to 180 days from the date of publication of notice of the filing of an amendment to a national market system plan for its approval of the amendment to the OPRA Plan adopting a capacity allocation formula. The Commission finds that, due to the complexity of issues relating to adopting a formula to allocate OPRA systems capacity between the options exchanges during peak usage periods, it is necessary and appropriate in the public interest, for the protection of investors, and the maintenance of fair and orderly markets to designate this longer period. 17 CFR 240.11Aa3–2.

[35] *See* letters to Jonathan G. Katz, Secretary, Commission, from Joseph B. Stefanelli, Executive Vice President, Derivative Securities, AMEX, Commission, dated July 28, 2000 (''Amex Letter''); Edward J. Joyce, President and Chief Operating Officer, CBOE, dated June 9, 2000 (''CBOE Letter''); Michael J. Simon, Senior Vice President and General Counsel, ISE, dated June 9, 2000 (''ISE Letter''); James J. Bowe, Senior Executive Vice President Options, PCX, dated August 3, 2000 (''PCX Letter''); Meyer S. Frucher, Chairman and Chief Executive Officer, Phlx, dated June 12, 2000 (''Phlx Letter''); Joel L. Bohm, General Counsel and Corporate Secretary, SIAC, dated June 8, 2000 (''SIAC Letter''); Joel Greenberg, Susquehanna Partners, GP, dated June 9, 2000 (''Susquehanna Letter''); and Chris Delzio, dated June 7, 2000. A full summary of comments received on the proposed amendments to the OPRA Plan is available in the Commission's Public Reference Room (File No. 4–434).

[36] *See* Amex Letter; ISE Letter; Phlx Letter; and SIAC Letter.

Proposed Alternative A.[37] Two commenters, on the other hand, supported the concept of an equal allocation of available capacity.[38] As discussed below, commenters generally did not support Proposed Alternative B, because of their opposition to the proposed measure of quoting efficiency. Two commenters stated that, in the long term, OPRA capacity should not be allocated based on a formula.[39] Instead, these commenters believed that each options exchange should pay for the amount of capacity that it requires.[40]

1. Comments on Proposed Methods of Incorporating a Measure of Quoting Efficiency into the Allocation of Capacity

Both allocation formulae proposed by the Commission incorporated a measure of quoting efficiency. Proposed Alternative A would have allocated capacity during peak periods to an exchange for which an options class was considered an Included Class, based on the average quotation volume during the first half-hour of the trading day across all markets for which such class was an Included Class. Proposed Alternative B would have adjusted an equal allocation of capacity based on an exchange's ratio of quotes to its trading volume.

Several commenters opposed the Commission's proposed measures of quoting efficiency set forth in Proposed Alternative A and Proposed Alternative B. With respect to Proposed Alternative A, six of the commenters were opposed to determining the average quoting frequency of multiply-traded and exclusively-traded options classes based on the quoting activity that occurs during the first half-hour after the opening rotation, citing the difficulty in obtaining such information for the proposed time period.[41] Four commenters suggested the full trading day, rather than the first half-hour, be used for calculating average quoting frequency, due to the effort that would be required to process the required raw data, the lack of clarity as to when a particular market has completed its opening rotation, and the potential for manipulation.[42]

With respect to Proposed Alternative B, one commenter expressed significant opposition to the initial equal allocation, arguing that the proposed adjustments to this allocation based on quoting efficiency were not significant enough to adequately reward more efficient exchanges.[43] Another commenter also raised concerns about Proposed Alternative B, but for a different reason. Specifically, this commenter stated that the quote-to-contract volume aspect of Proposed Alternative B would reward established markets at the expense of new exchanges attempting to compete for market share by competitively quoting.[44]

One commenter objected to the way adjustments for quoting efficiency were proposed to be made to the initial equal allocation because it was based on an inappropriate measure of quoting efficiency.[45] This commenter also expressed concerns that using the quote-to-volume ratio as a measure of quoting efficiency would discourage new listings, have the effect of giving different allocations to exchanges that have the same quoting frequency, and would generally impede competition by providing high volume exchanges with an advantage over new exchanges and lower-volume exchanges.

Another commenter expressed concerns that Proposed Alternative B would result in market makers quoting larger spreads to compensate for a disincentive to adjust quotes based on volatility in the underlying security. In addition, this commenter argued that Proposed Alternative B would favor exchanges and options classes that have a greater percentage of institutional order flow, which could disadvantage retail investors, and could result in a disincentive to multiply-list options classes. In this regard, this commenter contended that aggressive quoting, which could negatively affect an exchange's quote-to-contract ratio, is necessary for a new market to attempt to acquire market share in a multiply-listed options class.[46]

The allocation formula adopted by the Commission today incorporates the measure of quoting efficiency contained in the Commission's Proposed Alternative A. That is, the exchanges will receive a capacity allocation based on the average quoting frequency of all exchanges for which an options class is an Included Class. Exchanges that quote more frequently than the average will not receive capacity equal to their past usage. Exchanges that quote less frequently will receive more capacity for that options class than their past usage, thus allowing them to use the extra capacity to support a business in other options classes, such as those which may not have sufficient trading volume to be an Included Class.

The Commission recognizes the merit in commenters' views that limiting the capacity allocated to a particular exchange based on relative quoting frequency as proposed in Alternative A may discourage market makers from aggressively quoting and may favor larger, more established exchanges that do not need to aggressively quote to advertise for order flow. The Commission also agrees that there may be circumstances in which exchanges quoting with the same frequency may receive different allocations of capacity under the formula because one exchange does not have enough trading volume for particular options classes to be Included Classes. Nonetheless, the Commission believes that the formula being adopted today strikes an appropriate balance between the capacity needs of higher volume exchanges and that of newer and smaller volume markets because it combines the allocation of capacity based on the number of Included Classes on an exchange with the allocation of an equal portion of one-third of available capacity, which should ensure that newer and smaller exchanges receive sufficient capacity to actively compete for order flow. The Commission also believes that it is important to provide an incentive to exchanges to avoid excessive quoting. The Commission believes that the allocation formula adopted today would

[37] *See* CBOE Letter and ISE Letter.

[38] *See* Phlx Letter and Amex Letter.

[39] *See* Phlx Letter and CBOE Letter.

[40] *Id.* Another commenter proposed to address the Commission's concerns about OPRA system capacity by allowing the dissemination of all transaction prices, but quotations only for options classes meeting minimum volume thresholds or that have one of the three strike prices nearest to the price of the underlying security. The PCX argued that OPRA capacity should be targeted to options series that are actively traded and that all exchanges should be able to competitively quote those series to provide investors with the most competitive prices available. *See* PCX Letter. The Commission believes that this approach would be viable if the exchanges developed a system that would disseminate a quote only upon request. In the absence, however, of such a system, the Commission does not believe that this approach is consistent with Section 11A(c)(1)(B) of the Act. The Commission continues to encourage the exchanges to develop mitigation strategies, including the development of a request-for-quote system.

[41] *See* Amex Letter; CBOE Letter; ISE Letter; Susquehanna Letter; PCX Letter; and Phlx Letter.

[42] *See* Amex Letter; CBOE Letter; PCX Letter; and ISE Letter.

[43] *See* CBOE Letter.

[44] *See* ISE Letter. This commenter noted that any allocation formula should promote competition and not in any way ''lock in'' or preserve the market share of any options exchange. Instead of basing an allocation formula on an exchange's volume or market share, which would prevent smaller or newer markets from effectively competing against exchanges with greater volume, this commenter advocated an allocation formula based solely on the products that an exchange trades. In addition, this commenter emphasized the need to adopt an allocation formula that would not perpetuate the problem of the inefficient use of OPRA bandwidth.

[45] *See Phlx Letter.* This commenter did not, however, recommend a more appropriate measure of quoting efficiency.

[46] *See* Susquehanna Letter.

do this by giving credit to an exchange based on the average quoting frequency of all exchanges, not just its own.

Moreover, in response to commenters' concerns regarding the Commission's proposal to calculate the average quoting frequency based on activity occurring during the first half-hour of the trading day, the Commission has modified the proposal to consider the last full hour of the trading day, 3 p.m. to 4 p.m. eastern time, when calculating average quoting frequency. The Commission believes that this modification should address perceived problems relating to the overlapping opening rotations of the various markets.

2. Comments on Capacity Allocation Only for Classes in Which an Exchange Has a Minimum Level of Trading Volume

Under Proposed Alternative A, the Commission proposed to allocate capacity to an exchange, only for those options classes that had a minimum trading volume on that exchange, which the Commission proposed to be 15 trades per day for multiply-listed options classes and 30 trades per day for exclusively-listed options classes.

Despite commenters' concerns that the proposed requirement that exchanges receive capacity credit under this scheme only for those classes for which there was a minimum level of trading may create disincentives to adding new listings,[47] the Commission has retained this requirement in the formula adopted today. The Commission has chosen to retain this requirement because of its concern that the absence of such a requirement may create incentives for exchanges to list certain options products without a sound business rationale and solely for the purpose of increasing their capacity allocation.

Commenters, however, generally opposed using the number of trades as the measure of activity in a particular options class on an exchange. Specifically, five commenters recommended that contract volume, rather than the number of trades, be used to measure activity in an options class to more accurately capture customer interest in a particular options class.[48] Two of these commenters believed that only customer contract volume should be counted for purposes of determining which options classes were Included Classes.[49]

The Commission agrees with the commenters' suggestion that the number of customer contracts, rather than the total number of trades, be used to determine which options classes are Included Classes on an exchange. The number of customer contracts traded is a meaningful measure of the importance of a particular exchange to investors. In addition, to avoid encouraging market makers to trade among themselves solely for the purpose of achieving sufficient volume in an options class, the Commission is adopting commenters' recommendation that only transactions involving customer accounts be counted for purposes of determining whether an options class is an Included Class.

Several commenters addressed the Commission's proposed trading thresholds for determining whether an options class should be considered an Included Class.[50] One commenter stated that multiply-listed and exclusively-listed classes should be treated the same because otherwise decisions to list new classes could be inappropriately influenced by capacity concerns.[51] One commenter recommended that an options class be considered an Included Class if the average daily contract volume over three months is 50 contracts and the class is multiply-listed, and if the average daily contract volume over three months is 100 contracts and the class is exclusively-listed.[52] This commenter believed that these ''more realistic thresholds'' would ''encourage all OPRA participants to consider delisting inactively traded products.'' Another commenter contended that an options class should be considered an Included Class if the exchange traded a minimum average of 40 contracts per day for both multiply-listed and exclusively-listed classes.[53]

Two commenters argued that determining which options classes are Included Classes should be based on industry-wide volume, rather than the volume on a particular exchange.[54] One of these commenters contended that using exchange-specific volume criteria to determine an Included Class would inappropriately reward exchanges that have an established market share in an options class and would discourage exchanges from listing new products to compete in actively-traded issues.[55] One of these commenters recommended that to eliminate this result an Included Class be any class with an average daily volume of greater than 25 customer contracts on an industry-wide basis for the last three months.[56]

With respect to the number of customer contracts required to be traded for an options class to be an Included Class, the Commission is adopting a requirement of 15 customer contracts for multiply-listed, and 25 contracts for exclusively-listed, options classes. These numbers are supported by the analysis conducted by Commission staff that indicates that approximately 93% of all multiply-listed options classes trade, on average, more than 15 customer contracts per day. In addition, approximately 60% of all exclusively-listed options classes that traded at least one contract over the period, on average, trade more than 25 customer contracts per day.[57] The Commission continues to believe that it is important to determine whether an options class is an Included Class on an exchange-by-exchange basis, rather than on an industry-wide basis, as suggested by commenters, to avoid encouraging the listing of new products solely to obtain additional capacity. The Commission believes that the approach it is adopting today ameliorates concerns about discouraging exchanges from listing new products by allocating an equal portion of one-third of available capacity to each options exchange.[58]

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[47] *See* ISE Letter; Phlx Letter; and Susquehanna Letter. The Phlx argued that because proposed Alternative A would provide no capacity allocation to an exchange if activity in an option class on that exchange failed to meet the volume thresholds to be considered an Included Class, the proposal would likely reduce competition by creating a disincentive for exchanges to list options that are already traded on other exchanges. This commenter expressed concern that an exchange may decide not to list an option class due to concerns that it will not attract enough volume to get an adequate capacity allocation.

[48] *See* Amex Letter; CBOE Letter; ISE Letter; Phlx Letter; and Susquehanna Letter.

[49] *See* Amex Letter and ISE Letter.

[50] *See* Amex Letter; CBOE Letter; ISE Letter; PCX Letter; Phlx Letter; and Susquehanna Letter.

[51] *See* Susquehanna Letter.

[52] *See* Amex Letter.

[53] *See* CBOE Letter. As an alternative to the Commission's proposal, the CBOE proposed that capacity be allocated for Included Classes based on the average number of quotes-to-cleared transactions. Each exchange's allocation would be adjusted by an exchange's efficiency, which would be determined by measuring an exchange's quote-to-trade ratio. The CBOE proposed to include a temporary minimum guarantee to all exchanges of 8% of the total OPRA capacity.

[54] *See* ISE Letter and Phlx Letter.

[55] *See* ISE Letter.

[56] Alternatively, the ISE suggested that ''Included Classes'' be defined as options classes with 15, or with 50, average daily customer contracts. *See* ISE Letter.

[57] Commission staff's analysis relies on Options Clearing Corporation data on average daily trading volume for the period January 1, 2000 through September 11, 2000 for options classes that traded, on average, more than zero customer contracts per day during this period.

[58] As an additional protection for new exchanges that may not have had enough time to attract, on average, 15 customer contracts each day in multiply-traded options classes, the formula being adopted today allows such exchanges to elect to receive a slightly greater than equal portion of one-

Continued

Finally, one commenter argued that active trading in options classes generates a larger number of quotes, which must be reflected in an exchange's capacity allocation.[59] In response to the commenter's assertion that higher volume exchanges require more capacity than lower volume exchanges, Commission staff conducted analysis that indicated that in a given option, the exchange that executed the most trades was no more likely to generate the most quotes than any of the other exchanges that traded the option. Therefore, there is not necessarily a direct relationship between the volume of trading and the number of quotations generated by a given market in a particular options class. Instead, other factors, such as the volatility of the price of the underlying security, more directly affect the number of quotations generated for a particular options class. Nonetheless, the Commission believes that the approach adopted today allocates greater capacity to the exchanges that list more options classes that exceed the minimum volume threshold, which partly achieves the commenter's objectives.

3. Comments on Allocating Capacity Equally Among the Options Exchanges

Proposed Alternative B was premised on an equal allocation of capacity among the options exchanges, with adjustments based on a measure of quoting efficiency. One commenter stated its general support for equal allocation of capacity among the exchanges, but objected to the formulae proposed by the Commission, arguing that it would reward markets for achieving trading volumes that were not necessarily related to aggressive or efficient quoting, but may be attributable, instead, to factors such as payment for order flow, internalization, and other arrangements between market participants and order flow providers.[60] Another commenter suggested allocating capacity based on three different factors, each of which would be used to allocate one-third of the total OPRA system capacity. The first one-third of OPRA capacity would be allocated equally among the exchanges under the plan proposed by this commenter.[61]

The amendment to the OPRA Plan adopted by the Commission allocates to each options exchange an equal portion of one-third of OPRA capacity.[62] The Commission agrees that each exchange that is operating an options market requires a minimum amount of OPRA capacity to launch new products, regardless of the number of customer contracts that it executes. Moreover, the Commission recognizes that there is not necessarily a direct correlation between the competitiveness of a market's quotes and its trading volume.[63] Nonetheless, the Commission believes that to balance several competing goals, it is appropriate at this time to limit the amount of capacity allocated based on no other factor than the operation of an options exchange. In particular, the Commission must balance the interests of fair competition with the need to assure the availability to market participants of timely and reliable market data. Balancing these goals requires the Commission to recognize that the options exchanges have decided, for competitive reasons, not to trade exactly the same products, and consequently, the capacity needs of the various markets are not precisely the same.[64]

4. Comments on Rewarding Quality of Quotes

In the Proposing Release, the Commission specifically sought comment on whether there may be another, more appropriate, performance criteria on which to base capacity allocation. One commenter argued that neither allocation formula proposed by the Commission created incentives to market makers to disseminate quotes that contribute value to the marketplace. As an alternative, this commenter recommended that the Commission adopt an allocation formula that would identify quotes that participate in the national best bid and offer (''NBBO'') and reward market makers that generate those quotes.[65]

The Commission agrees that allocating OPRA capacity to those markets that disseminate quotes that ''contribute value to the marketplace'' would be the preferable way to allocate OPRA capacity until a long-term solution is available. In response to the commenter's recommendation, Commission staff carefully considered how this objective might be integrated into a capacity allocation formula. The Commission concluded, however, that this objective could not be accomplished at this time because of the anticipated difficulty in implementing an NBBO-based formula in the absence of a consolidated NBBO in the options market.

5. Comments on Anticompetitive Aspects of Allocation Formula

As discussed above, several commenters argued that the allocation formulae proposed by the Commission are anticompetitive because the options exchanges would be discouraged from listing new products and capacity would be allocated to higher volume exchanges to the detriment of newer and smaller volume exchanges.[66] The Commission agrees with the commenters that the existence of an allocation formula may influence the behavior of certain market participants. Specifically, individual markets may determine not to list certain new products because of a concern that insufficient order flow would be attracted initially and would prevent the exchange from earning capacity credit for those products.

The Commission supports the efforts of the options exchanges to actively compete for order flow, and encourages the markets to consider listing new products to satisfy investor demand. In response to the commenters' concerns that a capacity allocation formula is antithetical to competition, however, the Commission believes that it is not the existence of an allocation formula, *per se,* that limits the exchanges' ability to generate and disseminate quotation message traffic at will. Instead, the source of the restrictions on ''free'' competition is the anticipated limitations on the availability of OPRA systems capacity, in that the demand on capacity is expected to exceed the supply. The Commission has encouraged the exchanges to develop their own allocation methodology.[67] An allocation formula, such as the one adopted by the Commission today, is

third available capacity. *See* OPRA Plan, Section V(d)(i).

[59] *See* CBOE Letter.

[60] *See* Phlx Letter.

[61] This commenter proposed that the second one-third of capacity be allocated based on the number of active options series in those Included Classes traded at each exchange and that the remaining one-third of capacity be allocated based on an exchange's quoting efficiency. *See* Amex Letter.

[62] As discussed in Section V.B.6 below, an exchange that has been operating for fewer than nine months may elect, in lieu of an equal portion of one-third of capacity and capacity based on the number of Included Classes that it trades, to receive 40% of the available capacity divided by the number of options exchanges.

[63] *See* ISE Letter; Phlx Letter; and Susquehanna Letter.

[64] For this reason, the Commission did not adopt the Phlx's proposal that a portion of the total OPRA capacity be divided equally among all the exchanges, with the remaining portion allocated based on the average daily trading volume across all markets during a calendar quarter. Every quarter, the portion of capacity to be divided equally would increase by 10% until all OPRA capacity would be divided equally. *See* Phlx Letter.

[65] *See* Susquehanna Letter.

[66] *See* ISE Letter; PCX Letter; and Phlx Letter.

[67] *See* Securities Exchange Act Release No. 41843 (September 8, 1999), 64 FR 50126 (September 15, 1999).

necessary because the exchanges have not sufficiently planned for the amount of capacity their business would need, been able to agree on allocation of the limited amount of capacity available, or developed strategies to mitigate the amount of market data generated. The allocation methodology adopted today is critical to ensure that the exchanges, in the aggregate, transmit no more market data to OPRA than the available capacity allows OPRA to disseminate in a timely manner to information vendors. In the absence of such limits, fair and orderly markets and the protection that investors receive from timely and accurate market data would be jeopardized.

6. Comments About New Exchanges

Proposed Alternative A would have treated all options classes listed on an exchange that has been operating for fewer than nine months as Included Classes for purposes of determining capacity allocation. Proposed Alternative B would have provided all exchanges, including new exchanges, with a minimum level of OPRA capacity, which the Commission proposed to be 15%.

Commenters recommended alternatives to the Commission's proposal to consider options classes listed by new options exchanges to be Included Classes for the first nine months of operation.[68] One commenter argued that the proposed nine-month period was both excessive and arbitrary.[69] Two commenters contended that existing exchanges would be placed at a competitive disadvantage if the Commission were to allow new exchanges a nine-month window to list options classes.[70]

Several commenters offered alternative accommodations for new exchanges.[71] Specifically, one commenter proposed allocating new exchanges a minimum amount of capacity for the first four months of its operation. After the first four months, a new exchange would be allocated capacity using the same formula as the existing exchanges.[72] Another commenter proposed, as an alternative, that new exchanges be allowed a one-year phase-in period. Under this approach, a new exchange, during its first year of operation, would provide the names of the options classes that it intended to list for an upcoming quarter and capacity would be allocated for each class based on an industry-wide volume threshold. Alternatively, this commenter suggested that the Commission extend its proposal to permit a new exchange to count all the option classes it lists from nine months to a year and a quarter.[73]

The capacity allocation formula adopted by the Commission provides that, during a new exchange's first quarter of operation, or any portion thereof, it will receive an allocation equal to 40% of available capacity divided by the total number of options exchanges.[74] For each quarter thereafter, a new exchange may decide whether to receive a capacity allocation (1) equal to 40% of available OPRA systems capacity divided by the total number of options exchanges; or (2) based on the same formula used to determine the capacity allocated to all other exchanges. An exchange that has been operating for fewer than 270 calendar days will make an election five business days following the end of a calendar quarter regarding which method under which it wishes to receive a capacity allocation. New markets will be treated the same as existing exchanges after the end of their first year of operation.[75]

The Commission believes that this approach, which provides an emerging market one year to establish its business and flexibility in determining its capacity allocation, adequately balances the Commission's interest in providing new markets with the capacity that they need to compete with existing exchanges, with its interest in not unfairly disadvantaging existing exchanges. In addition, the Commission believes this approach is responsive to concerns that by allowing new exchanges to treat all options listed as Included Classes, as proposed in Alternative A, new exchanges might be encouraged to list all or a substantial number of options classes currently traded.

VI. Costs and Benefits of the OPRA Plan Amendment

The Commission is adopting amendments to the OPRA Plan to allocate, among the options exchanges, OPRA's peak period message handling capacity. The Commission believes that these amendments are necessary because of the OPRA participants' inability to agree on how to allocate capacity among themselves and the inability to increase OPRA systems capacity within the short-term to a level sufficient to permit the exchanges to generate message traffic without restraint.

Although the Commission's adoption of a capacity allocation formula inhibits the exchanges' ability to generate and send to OPRA unlimited quotations, this is a direct consequence not of the formula, but of the fact that OPRA has limited capacity. The Commission is adopting these amendments as a short-term solution and only after the OPRA participants themselves have been unable to reach agreement on an objective capacity allocation formula. As a more permanent solution, the Amex, CBOE, PCX, and Phlx have consented, as part of their settlement of an enforcement action with the Commission, to, among other things, modify the organizational structure and operation of OPRA so that each exchange will independently determine the amount of capacity that it will obtain.[76]

The capacity allocation formula adopted today, which will be calculated quarterly and applied only when the exchanges' demand for OPRA capacity exceeds its supply, combines a number of elements found in the two alternative formulae proposed by the Commission, and incorporates several modifications recommended by commenters.

The formula adopted by the Commission allocates to each options exchange an equal portion of one-third of available OPRA systems capacity. This means that each exchange would have available at least 533 messages per second with the current 8,000 message per second capacity of OPRA. When OPRA capacity is expanded to 12,000 messages per second, as it is expected to be by year-end, each exchange would have available at least 800 messages per second.

The capacity remaining after the allocation described above and any allocation to new exchanges as

[68] *See* CBOE Letter; ISE Letter; Phlx Letter; PCX Letter; and Susquehanna Letter.

[69] *See* Phlx Letter.

[70] *See* Susquehanna Letter and PCX Letter.

[71] *See* CBOE Letter and ISE Letter.

[72] Under the CBOE proposal, a new exchange would receive approximately 2% of total available capacity during the first month, and 1% each month. After four months, the new exchange would be allocated 5% of total capacity. *See* CBOE Letter.

[73] The ISE states that the nine-month grace period proposed by the Commission for new exchanges would be insufficient to accommodate ISE's planned phase-in of 600 options classes during its first year of operation. *See* ISE Letter.

[74] If an options exchange begins to trade other than on the first of February, May, August, or November, each other options exchange's capacity will be recalculated pursuant to Section V (d)(ii)(B) of the OPRA Plan, using data from the most recent capacity allocation, except that any options exchange that was qualified for, and election to receive, the fixed new exchange allocation in the most recent quarterly allocation, will receive a new exchange allocation.

[75] Because a new exchange that has been operating for fewer than 270 days on the fifth business day following the end of a calendar quarter will make its election for the next allocation period, capacity will be allocated to new exchanges under this scheme for their first year of operation.

[76] *See* SEC Order, *supra* note 4.

described below, will be allocated among the exchanges based upon a variation of Proposed Alternative A, as set forth in the Proposing Release.[77] Specifically, this remaining OPRA systems capacity will be allocated to the exchanges based on the average quotation message traffic generated during the last full hour of the trading day, 3 p.m. to 4 p.m. eastern time. An exchange will receive an allocation only for those options classes for which at least a minimum number of customer contracts[78] are traded on that exchange. The formula does not allocate capacity to an exchange for a particular options class in which the exchange's average daily contract volume over a calendar quarter does not exceed 15 customer contracts for multiply-listed options classes and 25 customer contracts for exclusively-listed options classes.[79] Exchanges will not be given additional capacity for new listings that do not trade the minimum number of customer contracts set forth above.

Because new exchanges may not have had time to develop their business to attract a sufficient number of customer contracts to meet the minimums set forth above, such exchanges may instead elect to receive an allocation of OPRA systems capacity slightly greater than an equal portion of one-third of available capacity. Specifically, during its first nine months of operation, a new exchange will be permitted to elect whether to accept a capacity allocation equal to 40% of available capacity divided by the total number of options exchanges, or to be treated the same as all other exchanges under the formula. New markets will be treated the same as existing exchanges after the end of their first nine months of operation.

A. Response to Comments

In the Proposing Release, the Commission requested comment on the anticipated costs and benefits associated with the proposed allocation alternatives to the OPRA Plan, as well as any possible anticompetitive impact of the Proposed Alternatives.[80] Specifically, the Commission requested commenters to address whether either of the Proposed Alternatives would generate anticipated benefits or impose any costs on U.S. investors or others.

Several commenters shared the Commission's concern about OPRA capacity.[81] Currently, OPRA has the capacity to handle 8,000 messages per second. While the options exchanges currently have a slight capacity cushion,[82] the Commission continues to be concerned that the full implementation of decimal pricing, ISE's complete roll-out of new listings, and OPRA's planned dissemination of quotes with size may cause peak quoting rates to soon exceed OPRA systems capacity.[83] The Commission, therefore, believes that the allocation formula that it is adopting today is necessary to avoid delayed quotes that may result if the full implementation of decimal pricing, complete roll-out of ISE, and the dissemination of quotes with size causes the demand for OPRA systems capacity to exceed the supply.

Commenters also raised concerns regarding the Proposed Alternatives, which are addressed in detail above, that implicitly raise issues as to the costs associated with allocating capacity. Generally, commenters believed, in part, that the proposed alternatives could impact an exchange's decision to list certain types of products,[84] create disincentives to list new options,[85] fail to provide an incentive to quote economically,[86] lock-in market share,[87] or lead to anticompetitive results because the options exchanges would be discouraged from listing new products and capacity would be allocated to higher volume exchanges to the detriment of newer and smaller volume exchanges.[88] In addition, six commenters opposed determining the average quoting frequency of multiply-traded and exclusively-traded options classes based on the quoting activity occurring during the first half-hour after the opening rotation citing the difficulty in obtaining such information for the proposed time period.[89] Specifically, commenters complained that it would be difficult to process the required raw data due to the lack of clarity as to when a particular market has completed its opening rotation.

B. Benefits

Absent a mechanism to fairly allocate OPRA systems capacity among the markets, investors may be forced to rely on stale or delayed quote and trade information in making their investment decisions. Thus, the principal benefit of the amendments being adopted is to avoid the potential harm to market participants and investors associated with delayed quotes and trade information, while contributing to efficient price discovery and the best execution of customers' orders by their brokers. If peak quoting rates exceed OPRA systems capacity, queuing may occur and stale or incomplete market data may be transmitted to market participants and investors, thereby reducing market transparency and hampering efficient price discovery. Specifically, if the options market data sent by the exchanges to OPRA exceeds OPRA system capacity to publicly disseminate it on a real-time basis, only those market participants located on the floor of an exchange receive real-time market information. Therefore, the Commission believes that the allocation formula should help ensure that timely and reliable real time market information is available to investors to rely on in making trading and investment decisions.

In addition, the Commission notes that the adoption of an allocation formula will eliminate the need for the options exchanges to continuously negotiate the allocation of OPRA system capacity as any allocation that is needed can be accomplished in an objective and transparent manner. The allocation formula adopted today will allow the options exchanges to focus their resources on other things, such as developing an amendment to the OPRA Plan that will allow each exchange to independently determine the amount of capacity that it will obtain.[90] Therefore, the Commission believes that the

[77] *See, infra* Section II.

[78] For purposes of the formula, the term "customer contract" is defined as an options contract executed on an options exchange and cleared in a customer account at a registered clearing agency. *See* OPRA Plan, Section III (m).

[79] The term "options class" is defined in OPRA Plan, Section III (n), and includes options on groups or indexes of securities.

[80] *See* Proposing Release, *Supra* note 18.

[81] *See* CBOE Letter; Phlx Letter; Susquehanna Letter; SIAC Letter; PCX Letter; ISE Letter; and Amex Letter.

[82] On August 1, 2000, OPRA reported a one-minute peak of 3,581 messages per second. While this peak does not exceed OPRA's current capacity, in the recent past, the options exchanges have come dangerously close to exceeding OPRA's capacity. *See* Proposing Release, *supra* note.

[83] On August 28, 2000, decimal pricing on 13 exchange-listed stocks, three of which were optionable, began trading in decimals. *See* letter from Joe Corrigan, Executive Director, OPRA, to OPRA Market Data Recipients, dated August 17, 2000. On September 25, 2000, however, 106 additional exchange-listed stocks, 33 of which are optionable, began decimal pricing. On November 1, 2000, all of the exchanges and the Commission will determine whether to convert all listed stocks and all options to decimal pricing on December 4, 2000. In addition, as of October 5, 2000, ISE had begun trading options on 141 of its planned 600 classes.

[84] *See* Susquehanna Letter.

[85] *See* Phlx Letter.

[86] *See* Phlx Letter.

[87] *See* ISE Letter.

[88] *See* ISE Letter; PCX Letter; and Phlx Letter.

[89] *See* Amex Letter; CBOE Letter; ISE Letter; Susquehanna Letter; PCX Letter; and Phlx Letter.

[90] As noted above, this year the options markets have had to agree, on six separate occasions, to allocate OPRA systems capacity. *See* Section II, Background, *supra.*

adoption of the allocation formula will reduce the work of the exchanges and thereby, allow the exchanges to allocate their resources to other priorities.

The Commission also believes that, until sufficient capacity is available to the options markets to handle projected message traffic growth, the capacity allocation formula adopted by the Commission today should help to ensure that scarce OPRA systems capacity is allocated in an objective and transparent manner. The Commission continues to believe that the adoption of objective criteria should bring additional transparency and consistency to the allocation process. By using an objective capacity allocation formula to determine each exchange's message traffic limitations during peak usage periods, the options markets should be able to disseminate options market data on a real-time basis, which should foster competition. Further, allocating capacity should help maintain efficient and orderly markets for options by ensuring that current market data is continuously available and reliable. Finally, allocating capacity in an objective and transparent manner will enable the exchanges to better manage their demand for OPRA system capacity and should encourage each exchange to establish and utilize efficient quote reduction methods based on the amount of message capacity it has been allocated, thereby promoting efficiency.

C. Costs

The Commission has carefully considered the concerns raised by the commenters. First, the Commission recognizes that the options exchanges will incur certain costs in determining their average quotation message traffic for purposes of the calculation of Included Classes. These costs may include a one-time systems cost to establish a program to calculate which options classes traded by each exchange satisfy the definition of Included Classes. In addition, there may be ongoing costs associated with assigning staff to perform the calculation on a quarterly basis. Nonetheless, the Commission notes that the options exchanges routinely compile much of this information, although the data may have to be slightly reconfigured for the calculation of Included Classes.

Second, the Commission recognizes the validity of commenters' concerns that the existence of an allocation formula may discourage options exchanges from listing new products and capacity may be allocated to higher volume exchanges to the possible detriment of new and smaller volume exchanges. To address these concerns, the allocation formula adopted by the Commission provides each exchange with a minimum capacity allocation, regardless of the volume or activity on other exchanges. This certain allocation should allow exchanges to launch new products in order to compete with larger, more established exchanges. In addition, the Commission, by adopting the allocation formula, is not dictating how each exchange allocates its capacity within its own market. Instead, each options exchange will be able to determine whether to use its capacity for new or existing products.

Finally, in response to commenters' concerns about the costs associated with the perceived anticompetitive impact of an allocation formula, the Commission notes that it is not the existence of an allocation formula, *per se,* that limits the exchanges' ability to generate and disseminate quotation message traffic at will. Instead, the source of the restriction on "free" competition is the anticipated limitation on the availability of OPRA systems capacity, in that the demands on capacity are expected to exceed supply. An allocation formula, such as the one adopted by the Commission today, is necessary because the exchanges have not sufficiently planned for the amount of capacity their business would need, been able to agree on allocation of the limited amount of capacity available, or developed strategies to mitigate the amount of market data generated. The allocation methodology adopted today is critical to ensure that the exchanges, in the aggregate, transmit no more market data to OPRA than the available capacity allows OPRA to disseminate in a timely manner to information vendors. In the absence of such limits, fair and orderly markets and the protection that investors receive from timely and accurate market data would be jeopardized.

D. Conclusion

It is important to emphasize that the allocation formula adopted by the Commission today is merely a short-term solution while the options exchanges look for a more permanent solution to the capacity issue pursuant to their settlement agreement with the Commission.[91] Based on the comments and its own analysis, the Commission believes that the OPRA plan amendments adopted today provide a reasonable allocation of capacity among the options exchanges. First, by ensuring that each options exchange receives a minimum capacity allocation, the formula ensures that each exchange retains a basic amount of capacity at all times, regardless of the activity or actions of the other exchanges. Second, by measuring average quotation message traffic, the formula takes into account the individual needs of each exchange, while relying on a minimum volume threshold to avoid creating incentives for markets to list products solely for the purpose of increasing their capacity allocation. Third, the formula provides a new exchange with capacity to operate without encouraging it to irresponsibly list options classes solely to obtain capacity. Finally, each exchange will retain the flexibility to determine how best to allocate its capacity allocation within its own market.

In addition, the Commission recognizes that there are always costs associated with allocating a finite resource among users.[92] In fact, there are costs associated with the way the markets have been allocating capacity among themselves;[93] namely, the failure to provide incentives for the exchanges to reduce excessive quoting of existing listings and to add new listings only with a sound business rationale. The allocation formula adopted by the Commission today, which combines several elements of the alternative formulae proposed by the Commission in its Proposing Release and incorporates specific recommendations of commenters, is intended to minimize the impact on any one options exchange and to take into account the differences between the options exchanges. Therefore, while the Commission recognizes that the capacity allocation formula being adopted today may, on a short-term basis, limit the ability of the exchanges' to generate and send to OPRA unlimited quotations during peak quotation periods, the Commission believes that the allocation formula balances this concern with the needs of investors and other market participants in having timely and reliable market information to use to make informed investment and trading decisions.

[91] *See* SEC Order, *supra* note 4.

[92] The Commission notes, however, that the options exchanges are already allocating existing OPRA capacity during peak periods on six occasions, while continuing to work on other short-term mitigation strategies. *See supra* note 4.

[93] As discussed above, the options markets have reluctantly agreed on separate occasions to allocate existing OPRA capacity among themselves during peak periods through temporary amendments to the OPRA Plan. The capacity allocation used by the exchanges has been based loosely on the historical peaks experienced by each options market, and determined through negotiations among the markets.

VII. Effects on Competition, Efficiency, and Capital Formation

Section 23(a)(2) of the Act [94] requires that the Commission, when promulgating rules under the Act, to consider the impact any rule would have on competition and to not adopt any rule that would impose a burden on competition that is not necessary or appropriate in the public interest. In the Proposing Release, the Commission solicited comment on the effects on competition, efficiency, and capital formation of the proposed amendments. Specifically, the Commission requested commenters to address how the proposed amendments would affect competition between and among the options exchanges, market participants, and investors and how the proposed amendments would affect efficiency and capital formation. The Commission received four comment letters that specifically addressed these issues.[95]

The commenters expressed general concerns about the competitive implications of the proposed rules.[96] For example, one commenter stressed that allocating OPRA systems capacity should not come at the expense of competition among the exchanges.[97] Another commenter argued that any objective allocation formula proposed by the Commission should account for each exchange's individual performance to encourage competition and provide incentives for each exchange to improve its efficiency and increase its volume and order flow.[98] Two commenters emphasized that fundamental to any allocation formula should be that it promote competition and not preserve the market share of any options exchange.[99] Finally, one commenter supported the Commission's efforts to create an equitable methodology to allocate OPRA systems capacity, but cautioned that competition between the options markets should not be artificially restricted.[100]

The Commission has considered the comments and the amendments in light of the standards cited in Section 23(a)(2) of the Act [101] and believes that the amendments to the OPRA Plan adopted today likely would not impose any significant burden on competition that is not necessary or appropriate in furtherance of the Act. The Commission recognizes that allocating OPRA systems capacity among the OPRA participants does raise competitive concerns because capacity allocation inherently limits an exchange's ability to freely generate an unlimited number of quotes, which may restrict an exchange's ability to compete with other markets on the basis of price. However, the Commission believes that it is not the existence of an allocation formula that could limit competition between the options exchanges. Instead, any restriction on competition is caused by the limitations, both previously experienced and further anticipated, on the availability of OPRA systems capacity, in that the demands on capacity are expected to exceed the supply.

As described above, OPRA systems capacity is limited. Thus, in times of high market volume or market volatility, there may not be sufficient systems capacity to accommodate the message traffic generated by the options exchanges, which could lead to queuing of all or a substantial portion of options market data that is sent by each options exchange to OPRA for dissemination to the public. Further, the demand for OPRA systems capacity is expected to increase upon the full implementation of decimal pricing. Therefore, the Commission has determined that a fair and objective formula to allocate the limited systems capacity during times when the systems capacity is not sufficient to handle excess message traffic is necessary to help ensure that allocation is completed in an objective and transparent manner. The amendments to the OPRA Plan, therefore, provide a means to distribute capacity equitably among the exchanges during those times when OPRA systems capacity is insufficient.

By using an objective allocation formula to determine each exchange's message traffic limits during peak usage periods, the Commission believes that each options exchange will be able to continue to disseminate on a real-time basis its options market data, which should maintain price competition, and preserve liquidity and transparency for all market participants, including retail investors. If capacity constraints are not addressed and capacity is not objectively allocated, the dissemination of all options market data could be compromised, which could halt all price competition among the exchanges and result in investors receiving executions at prices that do not reflect the current market. Further, investors would be unable to make informed order-routing decisions because, if the system is overloaded by excessive message traffic, the systems could queue, leading to the dissemination of stale or incomplete market data. The allocation of capacity in an objective and transparent manner will enable each exchange to continue to disseminate its options market data on a real-time basis, thus enabling competition, albeit limited, to continue during high volume or high volatility times and enabling investors to make informed market decisions.

In adopting these amendments, the Commission has determined that the action is necessary and appropriate in the public interest for the protection of investors, and has considered the amendments' impact on efficiency, competition, and capital formation.[102] The Commission believes that the allocation formula should enhance the ability of the options exchanges to operate in an efficient and orderly manner by ensuring that current market data is constantly available. By having an objective allocation formula, each market will be able to determine and plan how to best operate during times when allocation of OPRA systems capacity is necessary. Further, the allocation formula should encourage each individual exchange to establish and utilize quote reduction methods based on the amount of message capacity it has been allocated, thereby promoting efficiency of the market data dissemination process. As discussed in greater detail above, the Commission has considered the amendments' impact on competition and believes that any restriction on competition is caused not by the Commission's adoption of an allocation formula, but by the limited supply of OPRA systems capacity. Finally, the Commission believes that the proposed amendments to the OPRA Plan, which should help to ensure the availability of timely and reliable real-time market data should enhance public confidence in the integrity of the options markets and consequently, facilitate capital formation.

VIII. Summary of Final Regulatory Flexibility Analysis

A Final Regulatory Flexibility Analysis (''FRFA'') has been prepared in accordance with the provisions of the Regulatory Flexibility Act (''Reg. Flex.

[94] 15 U.S.C. 78w(a)(2).

[95] *See* CBOE Letter; ISE Letter; Phlx Letter; and PCX Letter, *supra* note 66.

[96] The commenters generally directed their specific concerns to the two alternative formulae proposed by the Commission in the Proposing Release. As discussed above, the Commission has determined to adopt a modification of the two alternative proposals. Therefore, this discussion is limited to the general comments raised concerning the competitive aspects of allocating OPRA capacity.

[97] *See* Phlx Letter.

[98] *See* CBOE Letter.

[99] *See* ISE Letter and Phlx Letter.

[100] *See* PCX Letter.

[101] 15 U.S.C. 78w(a)(2).

[102] 15 U.S.C. 78c(f).

Act''),[103] regarding the Commission's adoption of amendments to the OPRA Plan establishing a formula to allocate the message capacity of the OPRA system among the participant exchanges.[104] An Initial Regulatory Flexibility Analysis (''IRFA'') was prepared in accordance with 5 U.S.C. 603 and was made available to the public.[105] The Commission received one comment directly relating to the IRFA prepared in connection with the Proposing Release.[106] In addition, the Commission notes that amendments to the OPRA Plan are being adopted in substantially the same format as proposed, incorporating certain recommendations from commenters. As a result, the FRFA is in substantially the same format as the IRFA.

As discussed more fully in the FRFA, the amendments to the OPRA Plan would directly affect the five OPRA participant exchanges, none of which is a small entity as defined in Rule 0–10 under the Act.[107] One commenter, an OPRA participant exchange, stated that all its members would be affected if quotation capabilities were reduced and, as a result, small businesses would be impacted by the amendments because many of this commenter's members are small entities.[108] The Commission, however, does not believe entities other than the OPRA participant exchanges will be directly affected by the amendments.[109]

The amendments to the OPRA Plan adopted by the Commission provide an equitable method of allocating OPRA capacity among the participant exchanges during peak usage periods based on objective criteria. Further, the amendments are intended to implement an equitable allocation of capacity, which should ensure that all broker-dealers and investors have available to them accurate and timely information with respect to quotations for and transactions in options and should help to avoid delays and queues in the dissemination of options market information. The Commission believes that the amendments only apply directly to the participant exchanges. Thus, there would be no direct impact on small businesses for the purposes of the Reg. Flex. Act. In addition, the Commission believes that the OPRA Plan amendments being adopted do not establish any new reporting, recordkeeping, or compliance requirements for small entities. A copy of the FRFA may be obtained by contacting John Roeser, Attorney, Division of Market Regulation, Securities and Exchange Commission, 450 Fifth Street, N.W., Washington, D.C. 20549–1001.

IX. Conclusion

The Commission finds that the amendments to the OPRA Plan are consistent with the Act, particularly Section 11A. Therefore, the Commission hereby amends the OPRA Plan to provide for a specific formula to allocate capacity among the options exchanges during peak usage periods pursuant to Rule 11Aa3–2(b)(2) and (c)(1) [110] and the Commission's authority under Section 11A(a)(3)(B) of the Act.[111]

X. Description of Amendments to the OPRA Plan

Additions are *italicized*; deletions are [bracketed].

* * * * *

III. Definitions

(a)–(k) No change.

(l) Relevant Calendar Quarter.

(i) For the capacity allocation commencing on May 1 of each year, the Relevant Calendar Quarter shall mean the months of January, February, and March.

(ii) For the capacity allocation commencing on August 1 of each year, the Relevant Calendar Quarter shall mean the months of April, May, and June.

(iii) For the capacity allocation commencing on November 1 of each year, the Relevant Calendar Quarter shall mean the months of July, August, and September.

(iv) *For the capacity allocation commencing on February 1 of each year, the Relevant Calendar Quarter shall mean the months of October, November, and December.*

(m) ''Customer Contracts'' means options contracts executed on an options exchange and cleared in a customer account at a registered clearing agency.

(n) ''Options Class'' means all of the put option or call option series overlying a security, as defined in Section 3(a)(10) of the Act, including a group or index of securities.

(o) ''Included Class'' means any options class listed by an OPRA participant:

(i) For which such participant executes during the Relevant Calendar Quarter an average of at least 15 customer contracts per day if the options class is multiply-listed; or

(ii) For which such participant executes during the Relevant Calendar Quarter an average of at least 25 customer contracts per day if the options class is exclusively-listed.

(p) Unless qualified for, and electing to receive a New Exchange Share, pursuant to paragraph (d)(i) of Section V, an OPRA participant that is operating an options market receives a ''Capacity Credit'' for each options class that is an Included Class for that participant equal to:

(i) For a multiply-traded options class, the average quote messages received by OPRA between 3:00 p.m. and 4:00 p.m. eastern time during the Relevant Calendar Quarter by all OPRA participants for which such class is an Included Class, divided by the number of such OPRA participants; or

(ii) For an exclusively-listed options class, the average quote messages received by OPRA during the Relevant Calendar Quarter by the OPRA participant between 3:00 p.m. and 4:00 p.m. eastern time.

(q) ''Allocation Percentage'' for an OPRA participant means the total of all such participant's Capacity Credits divided by the total of all Capacity Credits for all OPRA participants.

(r) ''New Exchange Share'' means 40 percent of OPRA systems capacity divided by the number of OPRA participants that are operating an options market.

IV. No Change

V. (a)–(c) No change.

(d) *Quarterly Calculation of Capacity Allocation*

(i) On the fifth business day following the end of the Relevant Calendar Quarter, each options exchange that has been operating for fewer than 270 calendar days will elect whether to accept a capacity allocation equal to: (A) the New Exchange Share; or (B) the capacity allocation that it would receive under paragraph (d)(ii)(B).

(ii) On the first of February, May, August, and November of each year, each OPRA participant that operates an options exchange will receive an allocation of OPRA systems capacity in an amount equal to:

(A) Its New Exchange Share, if so elected pursuant to paragraph (d)(i) of this Section; or

(B) The aggregate of:

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[103] 5 U.S.C. 603(a).

[104] Securities Exchange Act 11Aa3–2, 17 CFR 240.11Aa3–2.

[105] *See* Proposing Release, *supra* note 18.

[106] *See* PCX Letter.

[107] 17 CFR 240.0–10.

[108] *See* PCX letter.

[109] The amendments to the OPRA Plan would directly affect only the OPRA participants that operate options markets; namely, Amex, CBOE, ISE, PCX, and Phlx, none of which are small entities. *See* 17 CFR 240.0–10.

[110] 17 CFR 240.11Aa3–2(b)(2) and (c)(1).

[111] 15 U.S.C. 78k–1(a)(3)(B).

(1) One-third of OPRA systems capacity divided by the number of OPRA participants that are operating an options market; and

(2) The total OPRA systems capacity, less the allocation of any New Exchange Share and the total allocation of capacity pursuant to paragraph (d)(ii)(B)(1), multiplied by its Allocation Percentage.

(iii) OPRA will calculate the capacity allocation specified in paragraph (d)(ii) as soon as possible after the end of the Relevant Calendar Quarter. OPRA will use data to make this calculation that is provided to it by the OPRA participants. Alternatively, OPRA can contract with its processor or with another third party to perform this calculation. OPRA will notify the OPRA participants and the Commission of the capacity allocation promptly after such calculation is made.

(e) Notwithstanding paragraph (d) of this Section, for the first quarter, or any portion thereof, that an exchange commences trading of options, it will be allocated capacity equal to the New Exchange Share. If an exchange commences trading of options other than on the first of February, May, August, or November, each other options exchange's capacity shall be recalculated pursuant to paragraph (d)(ii)(B) of this Section, using the Allocation Percentage figures from the most recent Relevant Calendar Quarter, except that any options exchange that was qualified for, and elected to receive, the New Exchange Share in the most recent quarterly allocation, will receive a New Exchange Share.

(f) [d] Indemnification

(i)–(ii) No change.

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Dated: November 27, 2000.

By the Commission.

Margaret H. McFarland,

Deputy Secretary.

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