

Required fields are shown with yellow backgrounds and asterisks.

Page 1 of \* 58

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549  
Form 19b-4

File No. \* SR 2021 - \* 58

Amendment No. (req. for Amendments \*)

Filing by Nasdaq PHLX LLC

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

Initial * <input checked="" type="checkbox"/>	Amendment * <input type="checkbox"/>	Withdrawal <input type="checkbox"/>	Section 19(b)(2) * <input type="checkbox"/>	Section 19(b)(3)(A) * <input checked="" type="checkbox"/>	Section 19(b)(3)(B) * <input type="checkbox"/>
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Pilot <input type="checkbox"/>	Extension of Time Period for Commission Action * <input type="checkbox"/>	Date Expires * <input type="text"/>
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Rule

<input type="checkbox"/> 19b-4(f)(1)	<input type="checkbox"/> 19b-4(f)(4)
<input checked="" type="checkbox"/> 19b-4(f)(2)	<input type="checkbox"/> 19b-4(f)(5)
<input type="checkbox"/> 19b-4(f)(3)	<input type="checkbox"/> 19b-4(f)(6)

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010  
Section 806(e)(1) \*

Section 806(e)(2) \*

Security-Based Swap Submission pursuant to the Securities Exchange Act of 1934  
Section 3C(b)(2) \*

Exhibit 2 Sent As Paper Document

Exhibit 3 Sent As Paper Document

**Description**

Provide a brief description of the action (limit 250 characters, required when Initial is checked \*).

A proposal to amend the Exchanges Pricing Schedule at Options 7, Section 10 Proprietary Data Feed Fees

**Contact Information**

Provide the name, telephone number, and e-mail address of the person on the staff of the self-regulatory organization prepared to respond to questions and comments on the action.

First Name \* Daniel Last Name \* Cantu

Title \* Senior Associate General Counsel

E-mail \* Daniel.Cantu@nasdaq.com

Telephone \* (301) 978-8469 Fax

**Signature**

Pursuant to the requirements of the Securities Exchange of 1934, Nasdaq PHLX LLC has duty caused this filing to be signed on its behalf by the undersigned thereunto duty authorized.

Date 09/30/2021


(Title \*)

By John Zecca

EVP and Chief Legal Officer

(Name \*)

NOTE: Clicking the signature block at right will initiate digitally signing the form. A digital signature is as legally binding as a physical signature, and once signed, this form cannot be changed.



DN:  
email=john.zecca@nasdaq.com  
Date: 2021.09.30 16:36:51  
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Required fields are shown with yellow backgrounds and astericks.

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

For complete Form 19b-4 instructions please refer to the EDFS website.

**Form 19b-4 Information \***

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SR-Phlx-2021-58 19b-4.doc

The self-regulatory organization must provide all required information, presented in a clear and comprehensible manner, to enable the public to provide meaningful comment on the proposal and for the Commission to determine whether the proposal is consistent with the Act and applicable rules and regulations under the Act.

**Exhibit 1 - Notice of Proposed Rule Change \***

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SR-Phlx-2021-58 Exhibit 1.doc

The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO]-xx-xx). A material failure to comply with these guidelines will result in the proposed rule change being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)

**Exhibit 1A - Notice of Proposed Rule Change, Security-Based Swap Submission, or Advanced Notice by Clearing Agencies \***

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The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO]-xx-xx). A material failure to comply with these guidelines will result in the proposed rule change being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)

**Exhibit 2- Notices, Written Comments, Transcripts, Other Communications**

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Copies of notices, written comments, transcripts, other communications. If such documents cannot be filed electronically in accordance with Instruction F, they shall be filed in accordance with Instruction G.

Exhibit Sent As Paper Document

**Exhibit 3 - Form, Report, or Questionnaire**

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Copies of any form, report, or questionnaire that the self-regulatory organization proposes to use to help implement or operate the proposed rule change, or that is referred to by the proposed rule change.

Exhibit Sent As Paper Document

**Exhibit 4 - Marked Copies**

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The full text shall be marked, in any convenient manner, to indicate additions to and deletions from the immediately preceding filing. The purpose of Exhibit 4 is to permit the staff to identify immediately the changes made from the text of the rule with which it has been working.

**Exhibit 5 - Proposed Rule Text**

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SR-Phlx-2021-58 Exhibit 5.doc

The self-regulatory organization may choose to attach as Exhibit 5 proposed changes to rule text in place of providing it in Item I and which may otherwise be more easily readable if provided separately from Form 19b-4. Exhibit 5 shall be considered part of the proposed rule change

**Partial Amendment**

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If the self-regulatory organization is amending only part of the text of a lengthy proposed rule change, it may, with the Commission's permission, file only those portions of the text of the proposed rule change in which changes are being made if the filing (i.e. partial amendment) is clearly understandable on its face. Such partial amendment shall be clearly identified and marked to show deletions and additions.

1. Text of the Proposed Rule Change

(a) Nasdaq PHLX LLC (“Phlx” or “Exchange”), pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> is filing with the Securities and Exchange Commission (“SEC” or “Commission”) a proposal to amend the Exchange’s Pricing Schedule at Options 7, Section 10 (Proprietary Data Feed Fees) to: (i) allow the external distribution of analytic products derived from information contained in the Phlx Options Trade Outline (“PHOTO”) to the general investing public; (ii) increase fees for End of Day, Intra-Day, and historical data to reflect the current market value of these products; and (iii) offer a discounted fee for 36 months of historical data for current distributors. The proposal also includes a number of conforming and technical changes described further below.

While these amendments are effective upon filing, the Exchange has designated the proposed amendments to be operative on October 1, 2021.

A notice of the proposed rule change for publication in the Federal Register is attached as Exhibit 1. The text of the proposed rule change is attached as Exhibit 5.

(b) Not applicable.

(c) Not applicable.

2. Procedures of the Self-Regulatory Organization

The proposed rule change was approved by senior management of the Exchange pursuant to authority delegated by the Board of Directors (the “Board”) on November 5,

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

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

2020. Exchange staff will advise the Board of any action taken pursuant to delegated authority. No other action is necessary for the filing of the rule change.

Questions and comments on the proposed rule change may be directed to:

Nasdaq, Inc.  
Daniel A. Cantu  
Senior Associate General Counsel  
Nasdaq, Inc.  
(301) 978-8469.

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

a. Purpose

This Proposal will: (i) allow the external distribution of analytic products derived from PHOTO information to the general investing public; (ii) increase fees for End of Day, Intra-Day, and historical data to reflect the current market value of these products; and (iii) offer a discounted fee for 36 months of historical data for current distributors.

The Exchange initially filed these proposed pricing changes on August 6, 2021 (SR-Phlx-2021-46), but withdrew that filing on August 19, 2021. This filing reintroduces the August 6 Proposal.

**PHLX Options Trade Outline (“PHOTO”)**

PHOTO provides customers with the ability to create and test trading models and analytic strategies and build customized sentiment indicators using the following data fields:<sup>3</sup>

- Aggregate number of buy and sell transactions in the affected series;
- Aggregate volume traded electronically on the Exchange in the affected series;

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<sup>3</sup> See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121) (initial filing introducing PHOTO on September 1, 2010).

- Aggregate number of trades effected on the Exchange to open a position;<sup>4</sup>
- Aggregate number of trades effected on the Exchange to close a position;<sup>5</sup>
- Origin of the orders involved in trades on the Exchange in the affected series during a particular trading session, specifically aggregated in the following categories of participants: Customers, broker-dealers, market makers (including specialists, Registered Options Traders (“ROTs”), Streaming Quote Traders (“SQTs”)<sup>6</sup> and Remote Streaming Quote Traders (“RSQTs”)),<sup>7</sup> and Professionals.<sup>8</sup>

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<sup>4</sup> PHOTO provides subscribers with the aggregate number of “opening purchase transactions.” The term “opening purchase transaction” means an exchange options transaction in which the purchaser’s intention is to create or increase a long position in the series of options involved in such transaction. See Options 1, Section 1(b)(34). PHOTO will also provide subscribers with the aggregate number of “opening writing transactions.” The term “opening writing transaction” means an Exchange options transaction in which the seller’s (writer’s) intention is to create or increase a short position in the series of options involved in such transaction. See Options 1, Section 1(b)(35).

<sup>5</sup> PHOTO provides subscribers with the aggregate number of “closing purchase transactions” in the affected series. A “closing purchase transaction” means an Exchange options transaction in which the purchaser’s intention is to reduce or eliminate a short position in the series of options involved in such transaction. See Options 1, Section 1(b)(11). PHOTO will also provide subscribers with the aggregate number of “closing sale transactions.” A “closing sale transaction” means an Exchange options transaction in which the seller’s intention is to reduce or eliminate a long position in the series of options involved in such transaction. See Options 1, Section 1(b)(12).

<sup>6</sup> A “Streaming Quote Trader” or “SQT” means a Market Maker who has received permission from the Exchange to generate and submit option quotations electronically in options to which such SQT is assigned. An SQT may only submit such quotations while such SQT is physically present on the trading floor of the Exchange. An SQT may only submit quotes in classes of options in which the SQT is assigned. See Options 1, Section 1(b)(54).

<sup>7</sup> A “Remote Streaming Quote Trader” or “RSQT” means a Market Maker that is a member affiliated with a Remote Streaming Quote Trader Organization with no physical trading floor presence who has received permission from the Exchange to generate and submit option quotations electronically in options to which such RSQT has been assigned. A qualified RSQT may function as a Remote Lead Market Maker upon Exchange approval. An RSQT is also known as a Remote Market Maker (“RMM”) pursuant to Options 2, Section 11. A Remote Streaming Quote Organization (“RSQTO”) or Remote Market Maker Organization (“RMO”)

PHOTO is available in End of Day and Intra-Day files. The End of Day file is updated during an overnight process with additional fields and is available the following morning.<sup>9</sup> The monthly subscriber fee for the End of Day product is currently \$400.

The Intra-Day product is captured in “snapshots” taken every 10 minutes throughout the trading day, available to subscribers within 5 minutes of the conclusion of each period. Subscribers receive the first calculation at 9:45 a.m. ET, representing data captured from 9:30 a.m. to 9:39 a.m., and the second calculation at 9:55 a.m., representing data from both the most recent snapshot and previous snapshots, continuing over the course of the trading day. The monthly subscriber fee for the Intra-Day product is currently \$1,500.

PHOTO historical data provides information about the past activity of all option series traded on the Exchange for each trading session conducted during a prior calendar month selected by the subscriber.<sup>10</sup> This data is intended to enhance a purchaser’s ability to analyze option trade and volume data, evaluate historical trends in the trading activity

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are Exchange member organizations that have qualified pursuant to Options 2, Section 1. See Options 1, Section 1(b)(49).

<sup>8</sup> The term “Professional” means any person or entity that (i) is not a broker or dealer in securities, and (ii) places more than 390 orders in listed options per day on average during a calendar month for its own beneficial account(s). Member organizations must indicate whether orders are for Professionals. See Options 1, Section 1(b)(45).

<sup>9</sup> These additional fields are: (i) Option First Trade Price; (ii) Option High Trade Price; (iii) Option Low Trade Price; (iv) Option Last Trade Price; (v) Total Phlx electronic volume for the series; (vi) Total industry volume for the series; and (vii) Open interest for the series.

<sup>10</sup> See Securities Exchange Act Release 63351 (November 19, 2010), 75 FR 73140 (November 29, 2010) (SR-Phlx-2010-154).

of a particular option series, and create and test trading models and analytical strategies.

The product provides the following data:

- Aggregate number of buy and sell transactions in the affected series for each trading session conducted during the specified calendar month(s);
- Aggregate volume traded electronically on the Exchange in the affected series for each trading session conducted during the specified calendar month(s);
- Aggregate number of trades effected on the Exchange to open a position<sup>11</sup> for each trading session conducted during the specified calendar month(s);
- Aggregate number of trades effected on the Exchange to close a position<sup>12</sup> for each trading session conducted during the specified calendar month(s);
- Origin of the orders involved in trades on the Exchange in the affected series for each trading session conducted during the specified calendar month(s), specifically aggregated in the following categories of participants: customers, broker-dealers, market makers (including specialists, ROTs, SQTs<sup>13</sup> and RSQTs),<sup>14</sup> and Professionals.<sup>15</sup>

Historical PHOTO data is available starting in January 2009 in both End of Day and Intra-Day files.<sup>16</sup> The End of Day product provides aggregate data for the entire trading session, while the Intra-Day product includes periodic, cumulative data for each trading session at ten minutes intervals. The fee for the historical End of Day product is currently \$400 per month, and the fee for the historical Intra-Day product is \$750 per month.

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<sup>11</sup> See Supra, n. 4.

<sup>12</sup> See Supra, n. 5.

<sup>13</sup> See Supra, n. 6.

<sup>14</sup> See Supra, n. 7.

<sup>15</sup> See Supra, n. 8.

<sup>16</sup> See Securities Exchange Act Release No. 63351 (November 19, 2010), 75 FR 73140 (November 29, 2010) (SR-Phlx-2010-154) (introducing fees for PHOTO historical data).

PHOTO is one of five market data products offered by the Exchange.<sup>17</sup> The others are Phlx Depth of Market,<sup>18</sup> Top of Phlx Options,<sup>19</sup> TOPO Plus Orders,<sup>20</sup> and Historical Phlx Orders.<sup>21</sup> PHOTO plays a unique role in this array. It is not necessary to execute a trade, but it supplies the customer with information about underlying market trends designed to improve the quality of that customer's investment decisions. Customers can, and often do, elect to forego this information. The current purchasers of

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<sup>17</sup> There is little overlap in the data provided by PHOTO and the data provided by the other options market data products offered by the Exchange. The only elements of overlapping data would be the last sale information, which is available through Top of Phlx Options and TOPO Plus orders, and total exchange volume, which can be derived from several of the other products.

<sup>18</sup> Phlx Depth of Market (Phlx Depth) is designed to provide aggregate order book and last sale data from the PHLX Options Market in an easy-to-display format. Similar to NASDAQ TotalView-Aggregated feed, PHLX Depth summarizes the order interest at each price level in the PHLX system. See Options 3, Section 23(a)(3).

<sup>19</sup> Top of Phlx Options (TOPO) is designed to provide Best Bid and Offer (BBO) and last sale information directly to PHLX Options Market participant firms that subscribe to the data feed. See Options 3, Section 23(a)(1).

<sup>20</sup> TOPO Plus Orders is designed to provide Best Bid and Offer (BBO) and last sale information plus the state of single and complex orders on the PHLX order book to firms on a real-time basis. TOPO Plus Orders provides access to both the TOPO data feed and the PHLX Orders data feed. See Options 3, Section 23(a)(2).

<sup>21</sup> Historical Phlx Orders provides a historical record of the simple and complex order message data from the TOPO Plus Orders data product. Subscribers to this historical product may download the Historical Phlx Orders daily message logs on a T+1 basis from a secure FTP server. Historical Phlx Orders is available as eight separate files each day, four for simple orders and four for complex orders. The data originates from the Phlx Orders data feed and therefore, no quote data is included.



PHOTO are investment banks, market makers, asset managers and other buy-side investors.<sup>22</sup>

PHOTO is subject to direct competition from similar end of day and intra-day options trading summaries offered by ten other options exchanges.<sup>23</sup> All of these exchanges offer essentially the same end of day and intra-day options trading summary information, and generally differ solely in the amount of history available for purchase.<sup>24</sup> A few data fields available on PHOTO are also available on the OPRA feed.<sup>25</sup>

The options trading summary files offered by these ten exchanges are substitutes, not complements.<sup>26</sup> PHOTO provides data on options market activity which can be used to infer longer-term trends. The information provided by one exchange is generally similar to that provided by other exchanges because order flow can move from one

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<sup>22</sup> An average of 26 customers per month over the past year have subscribed to either the End of Day or Intra-Day product.

<sup>23</sup> These substitute products are: Nasdaq Options Trade Outline, ISE Trade Profile, GEMX Trade Profile data; open-close data from Cboe C1, C2, BZX, and EDGX; and Open Close Reports from MIAX Options, Pearl, and Emerald. A small number of options exchanges do not offer PHOTO-like products: Amex, ARCA, BOX, BX Options, and MRX, although the Exchange understands that similar products for BX Options and MRX may be forthcoming.

<sup>24</sup> For example, Cboe offers history for their end of day data starting in January 1990 while PHOTO End of Day history is only offered starting in January 2009. Also, Cboe offers intraday starting in October 2019 while PHOTO intraday is offered starting in January 2009.

<sup>25</sup> The overlap is limited to open interest, total industry volume, and first, high, low, and last trade price for an option series.

<sup>26</sup> Complementary products require the purchaser to buy both products together to be useful, as in the example of a video game and a video game console, or a smartphone and a smartphone charger. Products are substitutes when the purchase of one product renders purchase of the other product less necessary, as in the case of smartphones from two different manufacturers.

exchange to another, and market sentiment trends that appear on one exchange are likely to be similar to the sentiment trends on other exchanges. The key differentiator in the quality of the data depends on the volume of transactions on a given exchange. The greater the volume of transactions, the greater the value of the data. We observe that customers purchase sufficient data to provide a view of the market, but not more, as the value of data from each additional exchange yields diminishing returns.<sup>27</sup> Fees for PHOTO are therefore constrained by the competition among exchanges for similar options trading summary products.

### **Proposed Changes**

The Proposal will: (i) allow the external distribution of analytic products derived from PHOTO information to the general investing public; (ii) increase fees for End of Day, Intra-Day, and historical data to reflect the current market value of the product; and (iii) offer a discounted fee for 36 months of historical data for current distributors.

### **External Distribution to the General Investing Public**

The external distribution of PHOTO data or any analytic product derived from such data is not currently permitted, as explained in the initial filing of this product.<sup>28</sup> The Exchange proposes to remove that prohibition and allow vendors to distribute

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<sup>27</sup> Customers sometimes choose between purchasing PHOTO-type data from one exchange with a relatively large market share, or multiple exchanges with smaller market shares which collectively represent roughly the same fraction of the market as the larger exchange. Once the customer has an adequate view of the market, either through one or a small number of exchanges, the customer does not purchase additional data as the value of more data diminishes with each successive purchase.

<sup>28</sup> See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121) (“PHOTO is available only for internal use and distribution by subscribers.”).

“Derived Data”<sup>29</sup> based on PHOTO. Derived Data is “any Information generated in whole or in part from Exchange Information<sup>30</sup> such that the Information generated cannot be reverse engineered to recreate Exchange Information, or be used to create other data that is recognizable as a reasonable substitute for such Exchange Information.” The Exchange proposes to allow the distribution of Derived Data based on the information contained in the PHOTO product.<sup>31</sup>

An example of the type of Derived Data that the Exchange would like vendors to disseminate is the Sentiment Indicator currently offered by the Nasdaq ISE Exchange.<sup>32</sup> This indicator compares the number of opening long call options to opening long put

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<sup>29</sup> “Derived Data” is not currently a defined term in the Phlx Rulebook. In the Nasdaq rulebook, “Derived Data” is defined as “any information generated in whole or in part from Exchange Information such that the information generated cannot be reverse engineered to recreate Exchange Information, or be used to create other data that is recognizable as a reasonable substitute for such Exchange Information.” See Nasdaq Rulebook, Equity 7 (Pricing Schedule), Section 139(f) (definition of Derived Data for the Nasdaq Last Sale and Nasdaq Last Sale Plus data feeds).

<sup>30</sup> “Exchange Information” is any data or information that has been collected, validated, processed and/or recorded by the Exchange and made available for transmission relating to: (i) eligible securities or other financial instruments, markets, products, vehicles, indicators, or devices; (ii) activities of the Exchange; or (iii) other information or data from the Exchange. Information includes, but is not limited to, any element of information used or processed in such a way that Exchange Information or a substitute for such Information can be identified, recalculated or re-engineered from the processed information.

<sup>31</sup> Although Derived Data is a general term, in the context of this proposal it applies only to data derived from PHOTO information.

<sup>32</sup> See Nasdaq ISE, LLC Rules, Options 7 (Pricing Schedule), Section 10(D) (Enhanced Sentiment Market Data), available at <https://listingcenter.nasdaq.com/rulebook/ise/rules/ISE%20Options%207>. See also <https://www.nasdaq.com/market-activity/isee-index>.

options.<sup>33</sup> If the value is greater than 100, more long call options have been purchased by investors than long put options, while values less than 100 indicates the opposite. The higher the index is above 100, the more bullish the market sentiment is thought to be; the lower the index is below 100, the more bearish. This is but one example.

While the Exchange could develop and market such products on its own, a more effective way to distribute such information would be to allow market data vendors to identify, develop, and sell such indicators, harnessing the power of the competitive marketplace to promote innovation. This will promote the dissemination of a variety of analytical insights—previously available only to investment banks, market makers, asset managers and other buy-side investors—to the general investing public.<sup>34</sup>

This Proposal is based on industry feedback. Over the years, a number of vendors, as well as a few existing customers, have expressed an interest in creating indicators from PHOTO data that can be easily consumed by the general investing public. Phlx believes that it will be first to the market with an options data product that allows market data vendors to distribute market sentiment information. The fees charged for a license to distribute the Derived Data will be constrained by potential competition, as any exchange with an options trading product would be able to submit an immediately-

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<sup>33</sup> ISE sentiment Index = (Number of long call options purchased ÷ Number of long put options purchased) × 100. Focusing on opening activity allows for a more accurate measure of true investor sentiment.

<sup>34</sup> The Exchange proposes to sell the license to distribute this information in the form of Derived Data, rather than distributing the underlying information, so that the general investing public can benefit from the interpretation of the underlying data that we expect vendors to provide. Although the Exchange expects that this product will have the greatest utility for the general investing public, it is possible that some firms may find a Derived Data product useful as well. As such, the Exchange is not inserting a requirement that distribution be limited only to the general investing public.

effective fee filing to allow redistribution, most likely without needing to modify the underlying trading outline product in any way, thereby subjecting the proposed fee to market competition.

The Exchange proposes a fee of \$5,000 per month to allow the unlimited external distribution of Derived Data from PHOTO.

The Exchange expects up to 10 additional vendors to take advantage of this innovation over the course of the next 24 months. We do not have a precise estimate of the number of individuals expected to benefit, which will ultimately depend on the usefulness of the Derived Data products that reach the market. Having said that, we expect this to be a popular product that will benefit thousands of investors.

The Exchange proposes to license distribution of Derived Data for a fee of \$5,000 per month, which will be in addition to fees for the underlying data.<sup>35</sup>

#### Fee Increases for End of Day, Intra-Day and Historical Data

The Exchange proposes to increase the fee for End of Day data from \$500 to \$750 per month, and the fee for Intra-Day data from \$1,500 to \$2,500. Fees for historical data are proposed to increase from \$400 to \$500 per month for the End of Day file, and from \$750 to \$1,000 per month for the Intra-Day file.

These changes are proposed as an adjustment to reflect the current market value of the product, based on a review of fees for substitute products for PHOTO, particularly those offered by Cboe and MIAX.<sup>36</sup> As explained above, PHOTO provides customers

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<sup>35</sup> For example, external distribution of data derived from the End of Day product will be \$750 per month, plus the \$5,000 per month fee.

<sup>36</sup> Cboe (C1) offers end of day data for \$600 per month, and intra-day data for \$2,000 per month. For historical data, 1-4 years are available for \$600/month, and 5+ years of data are available for \$300 per month. See Cboe Exchange, Inc.

with the ability to create and test trading models and analytic strategies and build customized sentiment indicators using options transaction data. The value of PHOTO, and similar products, is determined in part by the number of underlying transactions reflected in the data, and in part by other factors such as the technical sophistication of the product.<sup>37</sup> The Exchange believes that the proposed fees reflect the current market value of this product, based on a comparison to the fees charged by competitors, adjusted

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Fee Schedule (July 1, 2021) available at [https://cdn.cboe.com/resources/membership/Cboe\\_FeeSchedule.pdf](https://cdn.cboe.com/resources/membership/Cboe_FeeSchedule.pdf). Cboe (C2) offers end of day data for \$500 per month, and Intra-Day data for \$1,000 per month. Historical data is available for \$400 for End of Day, and \$500 Intra-Day. See Cboe U.S. Options Fee Schedules (Cboe Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/ctwo/](https://www.cboe.com/us/options/membership/fee_schedule/ctwo/) Cboe BZX offers end of day data for \$500, intra-day for \$1,500; end of day historical data is \$400 per month, and intra-day data is \$750 per month. See Cboe U.S. Options Fee Schedules (BZX Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/bzx](https://www.cboe.com/us/options/membership/fee_schedule/bzx) Cboe EDGX end of day data is \$500 per month, Intra-Day data is \$1,000 per month; historical data is \$400 for end of day, and \$750 for intra-day. See Cboe U.S. Options Fee Schedules (EDGX Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/edgx/](https://www.cboe.com/us/options/membership/fee_schedule/edgx/) MIAX Options, MIAX Pearl and MIAX Emerald are \$600 per month for end of day, and \$2,000 per month for intra-day. See MIAX Options Exchange Fee Schedule (July 12, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Options\\_Fee\\_Schedule\\_07122021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Options_Fee_Schedule_07122021.pdf); MIAX Pearl Options Exchange Fee Schedule (July 1, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Pearl\\_Options\\_Fee\\_Schedule\\_07012021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Pearl_Options_Fee_Schedule_07012021.pdf); MIAX Emerald Options Exchange Fee Schedule (July 1, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Emerald\\_Fee\\_Schedule\\_07012021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Emerald_Fee_Schedule_07012021.pdf).

<sup>37</sup> PHOTO was originally delivered via FTP files, but now is available through Report HQ, a technology that allows access to all Nasdaq reports, including PHOTO, via an “On-Demand” technology with secure user access that provides firms with more options to better manage their subscriptions. A description of Report HQ access is available here: <https://www.nasdaq.com/docs/NasdaqReportHQ.pdf>.

by the relative value of the competitor products.<sup>38</sup> If the Exchange is incorrect in its assessment of the marketplace, current and prospective customers will elect not to purchase PHOTO.

Because fees are being set at market rates, we do not expect to see significant changes in sales for the core PHOTO products due to these particular fee changes, although, for the reasons discussed below, we do expect the discount on historical data to attract between 5 and 10 new customers.<sup>39</sup>

#### Discounts for 36 Months of Historical Data

PHOTO customers often purchase historical data with their subscription to create and test trading models and analytical strategies. To facilitate such testing and encourage new firms to purchase the product (and in particular to incentivize data vendors to develop new Derived Data products), the Exchange proposes an historical data discount

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<sup>38</sup> The value of PHOTO has increased since the product was first established on September 1, 2010. See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121). The same is true for the historical PHOTO data. See Securities Exchange Act Release No. 63351 (November 19, 2010), 75 FR 73140 (November 29, 2010) (SR-Phlx-2010-154).

<sup>39</sup> As a conforming change, the Exchange also proposes to replace the word “Subscriber” with “Distributor.” A “Distributor” of Nasdaq PHLX data is “any entity that receives a feed or data file of data directly from Nasdaq PHLX or indirectly through another entity and then distributes it either internally (within that entity) or externally (outside that entity).” See Options 7, Section 10. The term “Subscriber” is not specifically defined in the Phlx Options fee schedule, but is defined in the PSX Equity schedule as “any access that a distributor of the data entitlement package(s) provides to: (1) access the information in the data entitlement package(s); or (2) communicate with the distributor so as to cause the distributor to access the information in the data entitlement package(s).” See Equity 7, PSX TotalView, Subsection (d). In light of these definitions, we believe that the term “Distributor” is a more apt term for purchasers of PHOTO information than the term “Subscriber.”

for Current Distributors:<sup>40</sup> \$6,000 for the most recent 36 months<sup>41</sup> of End of Day data (one-third of the \$18,000 for 36 months at the proposed rate of \$500 per month); and \$12,000 for the most recent 36 months of Intra-Day data (one-third of the \$36,000 for 36 months at the proposed rate of \$1,000 per month). Current Distributors would be able to purchase both End of Day and Intra-Day data for \$18,000. Data for any months outside of the 36-month period would be purchased at the standard rates.<sup>42</sup>

The discount will depend on the type of subscription: a current purchaser of End of Day data would be eligible for the historical End of Day product at the reduced rate; a current purchaser of the Intra-Day product would be able to purchase the historical Intra-Day product at the reduced rate; and a purchaser of both the current End of Day and Intra-Day products would be entitled to purchase both types of history at the reduced rate.<sup>43</sup>

This discount will allow any customer with either a new or ongoing subscription to take advantage of the discounted rate. For example, a customer that buys the End of Day product for the first time in October 2021 would also be able to purchase historical

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<sup>40</sup> A “Current Distributor” is any firm that purchases either the End of Day Product for the current month, or the Intra-Day Product for the current month in the same month that the 36 months of historical End of Day or Intra-Day data is ordered.

<sup>41</sup> The most recent 36 months is measured based on the date of purchase of the 36 months of data by a Current Distributor.

<sup>42</sup> As a conforming change, the phrase “Charge per calendar month Requested” is replaced with the word “Fee” because of the special monthly rates for Current Distributors.

<sup>43</sup> Historical data is linked to the current product because effective historical testing requires a comparison of similar products. Effective testing of the End of Day product, for example, requires End of Day historical data, and the same would hold true for Intra-Day data.



End of Day data for the period September 2018 through September 2021 (inclusive) at the discounted rate. Similarly, a customer with a longstanding End of Day subscription that is current in October 2021 would be able to purchase the historical End of Day data from September 2018 through September 2021 at the discounted rate. The same reasoning would apply to Intra-Day customers.<sup>44</sup>

The proposed 36-month discount is based on customer feedback and our analysis of recent purchases. Customers have told us over the years that 36 months of historical data is optimal for testing. Although the median number of months for the purchase of historical data increased to 42 months over the past year, we determined that this was skewed by a large number of unusually large purchases, and decided to use the long-term average of 36 months as the most appropriate basis for the discount.

Any exchange that provides options trading statistics would be able to match the proposed discount for historical data through an immediately-effective fee filing with the Commission, thus subjecting the proposed fee change to competition.

We believe that the historical data discount will be attractive to our customers, and expect between 5 and 10 new distributors in the first year as a result.

#### Technical Change

The Exchange proposes to delete the footnote describing how historical data is charged as unnecessary.

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<sup>44</sup> A customer may use the proposed historical data discount more than once. For example, a Current Distributor that purchases 36 months of historical data at a discount, but later terminates that subscription, would be eligible to purchase another 36 months of historical data (based on the date of purchase) upon renewing that subscription. (Current Distributors that never terminate would have no need for a second purchase, as they would already possess the most recent months of historical data.).

Operative Date

The Exchange proposes the operative date to be October 1, 2021.

b. Statutory Basis

The Exchange believes that its proposal is consistent with Section 6(b) of the Act,<sup>45</sup> in general, and furthers the objectives of Sections 6(b)(4) and 6(b)(5) of the Act,<sup>46</sup> in particular, in that it provides for the equitable allocation of reasonable dues, fees and other charges among members and issuers and other persons using any facility, and is not designed to permit unfair discrimination between customers, issuers, brokers, or dealers.

Equitable Allocation of Reasonable Dues, Fees and Other Charges

As the Commission and courts<sup>47</sup> have recognized, “[i]f competitive forces are operative, the self-interest of the exchanges themselves will work powerfully to constrain unreasonable or unfair behavior.”<sup>48</sup> Accordingly, “the existence of significant

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<sup>45</sup> 15 U.S.C. 78f(b).

<sup>46</sup> 15 U.S.C. 78f(b)(4) and (5).

<sup>47</sup> The decision of the United States Court of Appeals for the District of Columbia Circuit in NetCoalition v. SEC, 615 F.3d 525 (D.C. Cir. 2010) upheld the Commission’s reliance upon competitive markets to set reasonable and equitably allocated fees for market data. “In fact, the legislative history indicates that the Congress intended that the market system evolve through the interplay of competitive forces as unnecessary regulatory restrictions are removed and that the SEC wield its regulatory power in those situations where competition may not be sufficient, such as in the creation of a consolidated transactional reporting system.” NetCoalition I, at 535 (quoting H.R. Rep. No. 94-229, at 92 (1975), *as reprinted in* 1975 U.S.C.C.A.N. 321, 323) (internal quotation marks omitted). The court agreed with the Commission’s conclusion that “Congress intended that competitive forces should dictate the services and practices that constitute the U.S. national market system for trading equity securities.” Id. (quoting Securities Exchange Act Release No. 59039 (December 2, 2008), 73 FR 74770, 74,771 (December 9, 2008) (SR-NYSEArca-2006-21)).

<sup>48</sup> See Securities Exchange Act Release No. 59039 (December 2, 2008), 73 FR 74770 (December 9, 2008) (SR-NYSEArca-2006-21).

competition provides a substantial basis for finding that the terms of an exchange's fee proposal are equitable, fair, reasonable, and not unreasonably or unfairly discriminatory."<sup>49</sup> The Commission and the courts have repeatedly expressed their preference for competition over regulatory intervention in determining prices, products, and services in the securities markets. In Regulation NMS, while adopting a series of steps to improve the current market model, the Commission highlighted the importance of market forces in determining prices and SRO revenues, and also recognized that current regulation of the market system "has been remarkably successful in promoting market competition in its broader forms that are most important to investors and listed companies."<sup>50</sup>

PHOTO is in direct competition with 10 options trading products that serve as substitutes for PHOTO information.<sup>51</sup> All of these products offer the same type of data content through end of day or intra-day reports, and in general differ only with respect to the amount of history available.<sup>52</sup> A small amount of the information available on PHOTO is also available on the OPRA feed.<sup>53</sup>

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<sup>49</sup> See id.

<sup>50</sup> See Securities Exchange Act Release No. 51808 (June 9, 2005), 70 FR 37496, 37499 (June 29, 2005) ("Regulation NMS Adopting Release").

<sup>51</sup> These substitute products are: NOTO, ISE Trade Profile, GEMX Trade Profile data; open-close data from Cboe C1, C2, BZX, and EDGX; and Open Close Reports from MIAX Options, Pearl, and Emerald. The Exchange understands that similar products for BX Options and MRX will be forthcoming.

<sup>52</sup> For example, Cboe offers history for their end of day data back through January 1990 while PHOTO End of Day history is only offered back through January 2009. Also, Cboe offers intra-day history back through Oct 2019 while PHOTO Intra-Day is offered through Jan 2009.

<sup>53</sup> The overlap is limited to open interest and total industry volume.

Purchase of PHOTO, like all market data products, is optional.<sup>54</sup> PHOTO is designed to help investors understand underlying market trends to improve the quality of investment decisions, but is not necessary to execute a trade. Customers can, and do, choose to forego the information from PHOTO or any of its competitor products when making a trade, as is evident from the relatively small number of current subscribers. As noted, a monthly average of only 26 customers over the past year subscribed to either the End of Day or Intra-Day products.<sup>55</sup>

Each of the three proposed changes—allowing the external distribution of derived data, modifying fees to reflect current market value, and discounting historical data—is subject to competition, both separately and together. As a whole, the Proposals will expand and enhance that competition.

First, the proposal to allow the external distribution of derived data is subject to competition as discussed above, and also introduces a new category of market participant—market data vendors—into the equation. Under the current rulebook, PHOTO data is not available for redistribution, in either native form or through Derived

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<sup>54</sup> Staff Guidance on SRO Filings Related to Fees states that “any discussion of alternatives should include a discussion of how regulatory requirements, particularly best execution obligations, Regulation NMS Rule 611 (the Order Protection Rule), and/or the Options Order Protection and Locked/Crossed Market Plan (Options Linkage Plan), as applicable, affect the competitive analysis.” See Division of Trading and Markets, U.S. Securities and Exchange Commission, “Staff Guidance on SRO Filings Related to Fees” (May 21, 2019), available at <https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees> (“Staff Guidance”). Given that PHOTO is an optional analytic product, other regulatory requirements are inapplicable.

<sup>55</sup> Staff Guidance, *Supra* n. 59, indicates that an SRO may estimate elasticity of demand for a product as part of the fee proposal. Such estimation is impossible in the case of PHOTO, which has not had a price change in nearly 10 years, and more generally is inapposite for any product subject to overall competition among exchange platforms.

Data.<sup>56</sup> This proposal will create a new market for the sale of Derived Data products to the general investing public. This is itself evidence of the competitive environment for PHOTO and its substitutes, as it is exactly the type of innovation one would expect to see in a competitive market. It will also spur further innovation by challenging market data vendors to create new and innovative Derived Data products. Any exchange that wishes to allow distribution of a Derived Data product based on options trading information would be able to do so with an immediately-effective fee filing similar to this Proposal, most likely without requiring any technological enhancement to the underlying product.

Allowing the redistribution of Derived Data, but not the underlying information, to the general investing public is an equitable allocation of reasonable dues, fees and other charges because it is the most efficient mechanism for widespread delivery of market sentiment information. As explained above, the proposal is designed to promote the dissemination of a variety of analytical insights—previously available only to investment banks, market makers, asset managers and other buy-side investors—to the general investing public by creating an incentive for market data vendors to identify, develop, and sell such indicators. Ordinarily, neither exchanges nor vendors allow redistribution of analytic products—such products are typically designed solely for the use of direct customers, not for redistribution to the customers of customers in the manner of a data feed. Allowing the redistribution of Derived Data provides an incentive for vendors to innovate with new compelling and varied analytic products for the general

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<sup>56</sup> See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121) (stating that “PHOTO is available only for internal use and distribution by subscribers.”).

investing public that will provide access to market sentiment insights currently available only to sophisticated investors.

Second, the proposed adjustments to PHOTO fees reflect the Exchange's assessment of the current marketplace, based on a review of fees for substitute products, particularly those offered by Cboe and MIAX.<sup>57</sup> As explained above, PHOTO provides customers with the ability to create and test trading models and analytic strategies and build customized sentiment indicators using options transaction data. The value of PHOTO, and similar products, is determined in part by the number of underlying

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<sup>57</sup> Cboe (C1) offers end of day data for \$600 per month, and intra-day data for \$2,000 per month. For historical data, 1-4 years are available for \$600/month, and 5+ years of data are available for \$300 per month. See Cboe Exchange, Inc. Fee Schedule (July 1, 2021) available at [https://cdn.cboe.com/resources/membership/Cboe\\_FeeSchedule.pdf](https://cdn.cboe.com/resources/membership/Cboe_FeeSchedule.pdf). Cboe (C2) offers end of day data for \$500 per month, and Intra-Day data for \$1,000 per month. Historical data is available for \$400 for End of Day, and \$500 Intra-Day. See Cboe U.S. Options Fee Schedules (Cboe Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/ctwo/](https://www.cboe.com/us/options/membership/fee_schedule/ctwo/) Cboe BZX offers end of day data for \$500, intra-day for \$1,500; end of day historical data is \$400 per month, and intra-day data is \$750 per month. See Cboe U.S. Options Fee Schedules (BZX Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/bzx](https://www.cboe.com/us/options/membership/fee_schedule/bzx) Cboe EDGX end of day data is \$500 per month, Intra-Day data is \$1,000 per month; historical data is \$400 for end of day, and \$750 for intra-day. See Cboe U.S. Options Fee Schedules (EDGX Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/edgx/](https://www.cboe.com/us/options/membership/fee_schedule/edgx/) MIAX Options, MIAX Pearl and MIAX Emerald are \$600 per month for end of day, and \$2,000 per month for intra-day. See MIAX Options Exchange Fee Schedule (July 12, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Options\\_Fee\\_Schedule\\_07122021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Options_Fee_Schedule_07122021.pdf); MIAX Pearl Options Exchange Fee Schedule (July 1, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Pearl\\_Options\\_Fee\\_Schedule\\_07012021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Pearl_Options_Fee_Schedule_07012021.pdf); MIAX Emerald Options Exchange Fee Schedule (July 1, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Emerald\\_Fee\\_Schedule\\_07012021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Emerald_Fee_Schedule_07012021.pdf).

transactions reflected in the data, and in part the technical sophistication of the product.<sup>58</sup> The Exchange believes that the proposed fees reflect the current market value of this product, based on a comparison to the fees charged by competitors, adjusted by the relative value of the competitor products.<sup>59</sup> If the Exchange is incorrect in its assessment of the marketplace, current and prospective customers will elect not to purchase PHOTO.

Third, offering historical data at a discount is yet another example of how the competitive marketplace works to constrain prices. In order to effectively compete, the Exchange proposes to reduce the price of historical data to: (i) encourage vendors to test the product for the first time and develop Derived Data products, and (ii) incentivize those categories of market participants that currently purchase the product—investment banks, market makers, asset managers and other buy-side investors—to test new trading models and analytical strategies. As explained above, the Exchange believes that this 36-month period is optimal for testing based on customer feedback and our analysis of recent purchases, and expects this new fee structure to be attractive for both old and new customers. Options exchanges that offer substitute products would be able to reduce the

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<sup>58</sup> PHOTO was originally delivered via FTP files, but now is available through Report HQ, a technology that allows access to all Nasdaq reports, including PHOTO, via an “On-Demand” technology with secure user access that provides firms with more options to better manage their subscriptions. A description of Report HQ access is available here: <https://www.nasdaq.com/docs/NasdaqReportHQ.pdf>.

<sup>59</sup> The value of PHOTO has increased since the product was first established on September 1, 2010. See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121). The same is true for the historical PHOTO data. See Securities Exchange Act Release No. 63351 (November 19, 2010), 75 FR 73140 (November 29, 2010) (SR-Phlx-2010-154).

price of their historical data through an immediately-effective fee filing at any time in response.

For all of these reasons, each aspect of the proposal, separately and together, is subject to competition, and therefore provides for the equitable allocation of reasonable dues, fees and other charges among members and issuers and other persons using any facility.

#### The Proposal Does Not Permit Unfair Discrimination

Nothing in the Proposal treats any category of market participant any differently from any other category of market participant. On the contrary, the Proposal expands distribution of PHOTO information beyond investment banks, market makers, asset managers and other buy-side investors to market data vendors and the general investing public. Allowing the distribution of Derived Data to the general investing public will broaden the availability of such information while not treating any current recipient of the product differently in any way. The new fee structure, which modifies fees to reflect current market value and offers historical data at a discount, applies equally to all current and potential distributors. PHOTO is available to all market participants, including members and non-members, and all market participants receive the same information in the PHOTO data feed.

With respect to the specific fee changes, it is reasonable and not unfair discrimination to charge an external distributor of Derived Data a \$5,000 licensing fee. Vendors will ordinarily charge a fee to their downstream customers for this service, and, even if the vendor is not charging a specific fee for this particular service, Derived Data products from PHOTO will be part of a suite of offerings that generally promote sales.



External distribution is fundamentally different than internal use, in that the former generates revenue from external sales while the latter does not. It is not unfair discrimination to charge a licensing fee for a product that generates downstream revenue.

Nor is it unfair discrimination to allow the redistribution of Derived Data, but not the underlying information, to the general investing public. As explained above, neither exchanges nor vendors ordinarily allow redistribution of analytic products—such products are typically designed solely for the use of direct customers, not for redistribution to the customers of customers in the manner of a data feed. Allowing the redistribution of Derived Data provides an incentive for vendors to innovate with new compelling and varied analytic products for the general investing public that will provide access to market sentiment insights currently available only to sophisticated investors. This proposal is therefore not unfair discrimination, but rather allows for more equitable access to market sentiment information to the general investing public.

It is also not unfair discrimination to provide a discount for 36 months of historical data to current distributors, but not former distributors or firms that have never purchased the product. Any firm would be able to become a current distributor at any time by subscribing to the PHOTO service, and would be able to cancel the subscription at any time after receiving the 36 months of historical data for the proposed discounted fee. It is not unfair discrimination to limit the historical data discount to current distributors, as they are in the best position to benefit from the historical data, whereas firms that do not currently receive the service would have little use for the information.

For all of these reasons, the Proposal does not permit unfair discrimination.

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

The Exchange does not believe that the proposed rule change will impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act.

The Exchange operates in a highly competitive environment in which the Exchange must continually adjust its fees to remain competitive. Because competitors are free to modify their own fees in response, the Exchange believes that the degree to which fee changes in this market may impose any burden on competition is extremely limited.

Intermarket Competition

As discussed in detail under Statutory Basis, PHOTO is subject to direct competition from the ten other options exchanges that offer substitutes to PHOTO. Moreover, purchase of PHOTO is optional. It is designed to help investors understand underlying market trends to improve the quality of investment decisions, but is not necessary to execute a trade.

The Proposal is grounded in the Exchange's efforts to compete more effectively. The Exchange is proposing to broaden distribution of PHOTO information beyond investment banks, market makers, asset managers and other buy-side investors to market data vendors and the general investing public, and to provide a discount for distributors to test investment strategies and trading models, and develop market sentiment indicators. These changes will not cause any unnecessary or inappropriate burden on intermarket competition, but rather will promote competition by expanding the market for PHOTO data and encouraging new distributors to investigate the product. Other exchanges are, of

course, free to match these changes or undertake other competitive responses, enhancing overall competition.

#### Intramarket Competition

The Proposal will not cause any unnecessary or inappropriate burden on intramarket competition. On the contrary, it will foster competition by expanding dissemination of data to vendors and the general investing public, and by encouraging more market participants to use PHOTO data to help inform their investments strategies and analytic models.

5. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others

No written comments were either solicited or received.

6. Extension of Time Period for Commission Action

Not applicable.

7. Basis for Summary Effectiveness Pursuant to Section 19(b)(3) or for Accelerated Effectiveness Pursuant to Section 19(b)(2)

Pursuant to Section 19(b)(3)(A)(ii) of the Act,<sup>60</sup> the Exchange has designated this proposal as establishing or changing a due, fee, or other charge imposed by the self-regulatory organization on any person, whether or not the person is a member of the self-regulatory organization, which renders the proposed rule change effective upon filing.

At any time within 60 days of the filing of the proposed rule change, the Commission summarily may temporarily suspend such rule change if it appears to the Commission that such action is: (i) necessary or appropriate in the public interest; (ii) for the protection of investors; or (iii) otherwise in furtherance of the purposes of the Act. If

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<sup>60</sup> 15 U.S.C. 78s(b)(3)(A)(ii).

the Commission takes such action, the Commission shall institute proceedings to determine whether the proposed rule should be approved or disapproved.

8. Proposed Rule Change Based on Rules of Another Self-Regulatory Organization or of the Commission

Not applicable.

9. Security-Based Swap Submissions Filed Pursuant to Section 3C of the Act

Not applicable.

10. Advance Notices Filed Pursuant to Section 806(e) of the Payment, Clearing and Settlement Supervision Act

Not applicable.

11. Exhibits

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

5. Text of the proposed rule change.

**EXHIBIT 1**

SECURITIES AND EXCHANGE COMMISSION  
(Release No. \_\_\_\_\_ ; File No. SR-Phlx-2021-58)

September \_\_, 2021

Self-Regulatory Organizations; Nasdaq PHLX LLC; Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Amend the Exchange's Pricing Schedule at Options 7, Section 10

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Act")<sup>1</sup>, and Rule 19b-4 thereunder,<sup>2</sup> notice is hereby given that on September 30, 2021, Nasdaq PHLX LLC ("Phlx" or "Exchange") filed with the Securities and Exchange Commission ("SEC" or "Commission") the proposed rule change as described in Items I, II, and III, below, which Items have been prepared by the Exchange. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

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

The Exchange proposes to amend the Exchange's Pricing Schedule at Options 7, Section 10 (Proprietary Data Feed Fees) to: (i) allow the external distribution of analytic products derived from information contained in the Phlx Options Trade Outline ("PHOTO") to the general investing public; (ii) increase fees for End of Day, Intra-Day, and historical data to reflect the current market value of these products; and (iii) offer a discounted fee for 36 months of historical data for current distributors. The proposal also includes a number of conforming and technical changes described further below.

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

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

The text of the proposed rule change is available on the Exchange's Website at <https://listingcenter.nasdaq.com/rulebook/phlx/rules>, at the principal office of the Exchange, and at the Commission's Public Reference Room.

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

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

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

1. Purpose

This Proposal will: (i) allow the external distribution of analytic products derived from PHOTO information to the general investing public; (ii) increase fees for End of Day, Intra-Day, and historical data to reflect the current market value of these products; and (iii) offer a discounted fee for 36 months of historical data for current distributors.

The Exchange initially filed these proposed pricing changes on August 6, 2021 (SR-Phlx-2021-46), but withdrew that filing on August 19, 2021. This filing reintroduces the August 6 Proposal.

### **PHLX Options Trade Outline (“PHOTO”)**

PHOTO provides customers with the ability to create and test trading models and analytic strategies and build customized sentiment indicators using the following data fields:<sup>3</sup>

- Aggregate number of buy and sell transactions in the affected series;
- Aggregate volume traded electronically on the Exchange in the affected series;
- Aggregate number of trades effected on the Exchange to open a position;<sup>4</sup>
- Aggregate number of trades effected on the Exchange to close a position;<sup>5</sup>
- Origin of the orders involved in trades on the Exchange in the affected series during a particular trading session, specifically aggregated in the following categories of participants: Customers, broker-dealers, market makers (including specialists, Registered Options Traders (“ROTs”), Streaming Quote Traders

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<sup>3</sup> See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121) (initial filing introducing PHOTO on September 1, 2010).

<sup>4</sup> PHOTO provides subscribers with the aggregate number of “opening purchase transactions.” The term “opening purchase transaction” means an exchange options transaction in which the purchaser’s intention is to create or increase a long position in the series of options involved in such transaction. See Options 1, Section 1(b)(34). PHOTO will also provide subscribers with the aggregate number of “opening writing transactions.” The term “opening writing transaction” means an Exchange options transaction in which the seller’s (writer’s) intention is to create or increase a short position in the series of options involved in such transaction. See Options 1, Section 1(b)(35).

<sup>5</sup> PHOTO provides subscribers with the aggregate number of “closing purchase transactions” in the affected series. A “closing purchase transaction” means an Exchange options transaction in which the purchaser’s intention is to reduce or eliminate a short position in the series of options involved in such transaction. See Options 1, Section 1(b)(11). PHOTO will also provide subscribers with the aggregate number of “closing sale transactions.” A “closing sale transaction” means an Exchange options transaction in which the seller’s intention is to reduce or eliminate a long position in the series of options involved in such transaction. See Options 1, Section 1(b)(12).

(“SQTs”)<sup>6</sup> and Remote Streaming Quote Traders (“RSQTs”),<sup>7</sup> and Professionals.<sup>8</sup>

PHOTO is available in End of Day and Intra-Day files. The End of Day file is updated during an overnight process with additional fields and is available the following morning.<sup>9</sup> The monthly subscriber fee for the End of Day product is currently \$400.

The Intra-Day product is captured in “snapshots” taken every 10 minutes throughout the trading day, available to subscribers within 5 minutes of the conclusion of each period. Subscribers receive the first calculation at 9:45 a.m. ET, representing data captured from 9:30 a.m. to 9:39 a.m., and the second calculation at 9:55 a.m.,

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<sup>6</sup> A “Streaming Quote Trader” or “SQT” means a Market Maker who has received permission from the Exchange to generate and submit option quotations electronically in options to which such SQT is assigned. An SQT may only submit such quotations while such SQT is physically present on the trading floor of the Exchange. An SQT may only submit quotes in classes of options in which the SQT is assigned. See Options 1, Section 1(b)(54).

<sup>7</sup> A “Remote Streaming Quote Trader” or “RSQT” means a Market Maker that is a member affiliated with a Remote Streaming Quote Trader Organization with no physical trading floor presence who has received permission from the Exchange to generate and submit option quotations electronically in options to which such RSQT has been assigned. A qualified RSQT may function as a Remote Lead Market Maker upon Exchange approval. An RSQT is also known as a Remote Market Maker (“RMM”) pursuant to Options 2, Section 11. A Remote Streaming Quote Organization (“RSQTO”) or Remote Market Maker Organization (“RMO”) are Exchange member organizations that have qualified pursuant to Options 2, Section 1. See Options 1, Section 1(b)(49).

<sup>8</sup> The term “Professional” means any person or entity that (i) is not a broker or dealer in securities, and (ii) places more than 390 orders in listed options per day on average during a calendar month for its own beneficial account(s). Member organizations must indicate whether orders are for Professionals. See Options 1, Section 1(b)(45).

<sup>9</sup> These additional fields are: (i) Option First Trade Price; (ii) Option High Trade Price; (iii) Option Low Trade Price; (iv) Option Last Trade Price; (v) Total Phlx electronic volume for the series; (vi) Total industry volume for the series; and (vii) Open interest for the series.



representing data from both the most recent snapshot and previous snapshots, continuing over the course of the trading day. The monthly subscriber fee for the Intra-Day product is currently \$1,500.

PHOTO historical data provides information about the past activity of all option series traded on the Exchange for each trading session conducted during a prior calendar month selected by the subscriber.<sup>10</sup> This data is intended to enhance a purchaser's ability to analyze option trade and volume data, evaluate historical trends in the trading activity of a particular option series, and create and test trading models and analytical strategies.

The product provides the following data:

- Aggregate number of buy and sell transactions in the affected series for each trading session conducted during the specified calendar month(s);
- Aggregate volume traded electronically on the Exchange in the affected series for each trading session conducted during the specified calendar month(s);
- Aggregate number of trades effected on the Exchange to open a position<sup>11</sup> for each trading session conducted during the specified calendar month(s);
- Aggregate number of trades effected on the Exchange to close a position<sup>12</sup> for each trading session conducted during the specified calendar month(s);
- Origin of the orders involved in trades on the Exchange in the affected series for each trading session conducted during the specified calendar month(s), specifically aggregated in the following categories of participants: customers, broker-dealers, market makers (including specialists, ROTs, SQTs<sup>13</sup> and RSQTs),<sup>14</sup> and Professionals.<sup>15</sup>

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<sup>10</sup> See Securities Exchange Act Release 63351 (November 19, 2010), 75 FR 73140 (November 29, 2010) (SR-Phlx-2010-154).

<sup>11</sup> See Supra, n. 4.

<sup>12</sup> See Supra, n. 5.

<sup>13</sup> See Supra, n. 6.

<sup>14</sup> See Supra, n. 7.

Historical PHOTO data is available starting in January 2009 in both End of Day and Intra-Day files.<sup>16</sup> The End of Day product provides aggregate data for the entire trading session, while the Intra-Day product includes periodic, cumulative data for each trading session at ten minutes intervals. The fee for the historical End of Day product is currently \$400 per month, and the fee for the historical Intra-Day product is \$750 per month.

PHOTO is one of five market data products offered by the Exchange.<sup>17</sup> The others are Phlx Depth of Market,<sup>18</sup> Top of Phlx Options,<sup>19</sup> TOPO Plus Orders,<sup>20</sup> and

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<sup>15</sup> See Supra, n. 8.

<sup>16</sup> See Securities Exchange Act Release No. 63351 (November 19, 2010), 75 FR 73140 (November 29, 2010) (SR-Phlx-2010-154) (introducing fees for PHOTO historical data).

<sup>17</sup> There is little overlap in the data provided by PHOTO and the data provided by the other options market data products offered by the Exchange. The only elements of overlapping data would be the last sale information, which is available through Top of Phlx Options and TOPO Plus orders, and total exchange volume, which can be derived from several of the other products.

<sup>18</sup> Phlx Depth of Market (Phlx Depth) is designed to provide aggregate order book and last sale data from the PHLX Options Market in an easy-to-display format. Similar to NASDAQ TotalView-Aggregated feed, PHLX Depth summarizes the order interest at each price level in the PHLX system. See Options 3, Section 23(a)(3).

<sup>19</sup> Top of Phlx Options (TOPO) is designed to provide Best Bid and Offer (BBO) and last sale information directly to PHLX Options Market participant firms that subscribe to the data feed. See Options 3, Section 23(a)(1).

<sup>20</sup> TOPO Plus Orders is designed to provide Best Bid and Offer (BBO) and last sale information plus the state of single and complex orders on the PHLX order book to firms on a real-time basis. TOPO Plus Orders provides access to both the TOPO data feed and the PHLX Orders data feed. See Options 3, Section 23(a)(2).

Historical Phlx Orders.<sup>21</sup> PHOTO plays a unique role in this array. It is not necessary to execute a trade, but it supplies the customer with information about underlying market trends designed to improve the quality of that customer's investment decisions.

Customers can, and often do, elect to forego this information. The current purchasers of PHOTO are investment banks, market makers, asset managers and other buy-side investors.<sup>22</sup>

PHOTO is subject to direct competition from similar end of day and intra-day options trading summaries offered by ten other options exchanges.<sup>23</sup> All of these exchanges offer essentially the same end of day and intra-day options trading summary

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<sup>21</sup> Historical Phlx Orders provides a historical record of the simple and complex order message data from the TOPO Plus Orders data product. Subscribers to this historical product may download the Historical Phlx Orders daily message logs on a T+1 basis from a secure FTP server. Historical Phlx Orders is available as eight separate files each day, four for simple orders and four for complex orders. The data originates from the Phlx Orders data feed and therefore, no quote data is included.

<sup>22</sup> An average of 26 customers per month over the past year have subscribed to either the End of Day or Intra-Day product.

<sup>23</sup> These substitute products are: Nasdaq Options Trade Outline, ISE Trade Profile, GEMX Trade Profile data; open-close data from Cboe C1, C2, BZX, and EDGX; and Open Close Reports from MIAX Options, Pearl, and Emerald. A small number of options exchanges do not offer PHOTO-like products: Amex, ARCA, BOX, BX Options, and MRX, although the Exchange understands that similar products for BX Options and MRX may be forthcoming.

information, and generally differ solely in the amount of history available for purchase.<sup>24</sup> A few data fields available on PHOTO are also available on the OPRA feed.<sup>25</sup>

The options trading summary files offered by these ten exchanges are substitutes, not complements.<sup>26</sup> PHOTO provides data on options market activity which can be used to infer longer-term trends. The information provided by one exchange is generally similar to that provided by other exchanges because order flow can move from one exchange to another, and market sentiment trends that appear on one exchange are likely to be similar to the sentiment trends on other exchanges. The key differentiator in the quality of the data depends on the volume of transactions on a given exchange. The greater the volume of transactions, the greater the value of the data. We observe that customers purchase sufficient data to provide a view of the market, but not more, as the value of data from each additional exchange yields diminishing returns.<sup>27</sup> Fees for

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<sup>24</sup> For example, Cboe offers history for their end of day data starting in January 1990 while PHOTO End of Day history is only offered starting in January 2009. Also, Cboe offers intraday starting in October 2019 while PHOTO intraday is offered starting in January 2009.

<sup>25</sup> The overlap is limited to open interest, total industry volume, and first, high, low, and last trade price for an option series.

<sup>26</sup> Complementary products require the purchaser to buy both products together to be useful, as in the example of a video game and a video game console, or a smartphone and a smartphone charger. Products are substitutes when the purchase of one product renders purchase of the other product less necessary, as in the case of smartphones from two different manufacturers.

<sup>27</sup> Customers sometimes choose between purchasing PHOTO-type data from one exchange with a relatively large market share, or multiple exchanges with smaller market shares which collectively represent roughly the same fraction of the market as the larger exchange. Once the customer has an adequate view of the market, either through one or a small number of exchanges, the customer does not purchase additional data as the value of more data diminishes with each successive purchase.

PHOTO are therefore constrained by the competition among exchanges for similar options trading summary products.

### **Proposed Changes**

The Proposal will: (i) allow the external distribution of analytic products derived from PHOTO information to the general investing public; (ii) increase fees for End of Day, Intra-Day, and historical data to reflect the current market value of the product; and (iii) offer a discounted fee for 36 months of historical data for current distributors.

### **External Distribution to the General Investing Public**

The external distribution of PHOTO data or any analytic product derived from such data is not currently permitted, as explained in the initial filing of this product.<sup>28</sup> The Exchange proposes to remove that prohibition and allow vendors to distribute “Derived Data”<sup>29</sup> based on PHOTO. Derived Data is “any Information generated in whole or in part from Exchange Information<sup>30</sup> such that the Information generated cannot

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<sup>28</sup> See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121) (“PHOTO is available only for internal use and distribution by subscribers.”).

<sup>29</sup> “Derived Data” is not currently a defined term in the Phlx Rulebook. In the Nasdaq rulebook, “Derived Data” is defined as “any information generated in whole or in part from Exchange Information such that the information generated cannot be reverse engineered to recreate Exchange Information, or be used to create other data that is recognizable as a reasonable substitute for such Exchange Information.” See Nasdaq Rulebook, Equity 7 (Pricing Schedule), Section 139(f) (definition of Derived Data for the Nasdaq Last Sale and Nasdaq Last Sale Plus data feeds).

<sup>30</sup> “Exchange Information” is any data or information that has been collected, validated, processed and/or recorded by the Exchange and made available for transmission relating to: (i) eligible securities or other financial instruments, markets, products, vehicles, indicators, or devices; (ii) activities of the Exchange; or (iii) other information or data from the Exchange. Information includes, but is not limited to, any element of information used or processed in such a way that

be reverse engineered to recreate Exchange Information, or be used to create other data that is recognizable as a reasonable substitute for such Exchange Information.” The Exchange proposes to allow the distribution of Derived Data based on the information contained in the PHOTO product.<sup>31</sup>

An example of the type of Derived Data that the Exchange would like vendors to disseminate is the Sentiment Indicator currently offered by the Nasdaq ISE Exchange.<sup>32</sup> This indicator compares the number of opening long call options to opening long put options.<sup>33</sup> If the value is greater than 100, more long call options have been purchased by investors than long put options, while values less than 100 indicates the opposite. The higher the index is above 100, the more bullish the market sentiment is thought to be; the lower the index is below 100, the more bearish. This is but one example.

While the Exchange could develop and market such products on its own, a more effective way to distribute such information would be to allow market data vendors to identify, develop, and sell such indicators, harnessing the power of the competitive marketplace to promote innovation. This will promote the dissemination of a variety of

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Exchange Information or a substitute for such Information can be identified, recalculated or re-engineered from the processed information.

<sup>31</sup> Although Derived Data is a general term, in the context of this proposal it applies only to data derived from PHOTO information.

<sup>32</sup> See Nasdaq ISE, LLC Rules, Options 7 (Pricing Schedule), Section 10(D) (Enhanced Sentiment Market Data), available at <https://listingcenter.nasdaq.com/rulebook/ise/rules/ISE%20Options%207>. See also <https://www.nasdaq.com/market-activity/isee-index>.

<sup>33</sup> ISE sentiment Index = (Number of long call options purchased ÷ Number of long put options purchased) × 100. Focusing on opening activity allows for a more accurate measure of true investor sentiment.

analytical insights—previously available only to investment banks, market makers, asset managers and other buy-side investors—to the general investing public.<sup>34</sup>

This Proposal is based on industry feedback. Over the years, a number of vendors, as well as a few existing customers, have expressed an interest in creating indicators from PHOTO data that can be easily consumed by the general investing public. Phlx believes that it will be first to the market with an options data product that allows market data vendors to distribute market sentiment information. The fees charged for a license to distribute the Derived Data will be constrained by potential competition, as any exchange with an options trading product would be able to submit an immediately-effective fee filing to allow redistribution, most likely without needing to modify the underlying trading outline product in any way, thereby subjecting the proposed fee to market competition.

The Exchange proposes a fee of \$5,000 per month to allow the unlimited external distribution of Derived Data from PHOTO.

The Exchange expects up to 10 additional vendors to take advantage of this innovation over the course of the next 24 months. We do not have a precise estimate of the number of individuals expected to benefit, which will ultimately depend on the usefulness of the Derived Data products that reach the market. Having said that, we expect this to be a popular product that will benefit thousands of investors.

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<sup>34</sup> The Exchange proposes to sell the license to distribute this information in the form of Derived Data, rather than distributing the underlying information, so that the general investing public can benefit from the interpretation of the underlying data that we expect vendors to provide. Although the Exchange expects that this product will have the greatest utility for the general investing public, it is possible that some firms may find a Derived Data product useful as well. As such, the Exchange is not inserting a requirement that distribution be limited only to the general investing public.

The Exchange proposes to license distribution of Derived Data for a fee of \$5,000 per month, which will be in addition to fees for the underlying data.<sup>35</sup>

Fee Increases for End of Day, Intra-Day and Historical Data

The Exchange proposes to increase the fee for End of Day data from \$500 to \$750 per month, and the fee for Intra-Day data from \$1,500 to \$2,500. Fees for historical data are proposed to increase from \$400 to \$500 per month for the End of Day file, and from \$750 to \$1,000 per month for the Intra-Day file.

These changes are proposed as an adjustment to reflect the current market value of the product, based on a review of fees for substitute products for PHOTO, particularly those offered by Cboe and MIAX.<sup>36</sup> As explained above, PHOTO provides customers

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<sup>35</sup> For example, external distribution of data derived from the End of Day product will be \$750 per month, plus the \$5,000 per month fee.

<sup>36</sup> Cboe (C1) offers end of day data for \$600 per month, and intra-day data for \$2,000 per month. For historical data, 1-4 years are available for \$600/month, and 5+ years of data are available for \$300 per month. See Cboe Exchange, Inc. Fee Schedule (July 1, 2021) available at [https://cdn.cboe.com/resources/membership/Cboe\\_FeeSchedule.pdf](https://cdn.cboe.com/resources/membership/Cboe_FeeSchedule.pdf). Cboe (C2) offers end of day data for \$500 per month, and Intra-Day data for \$1,000 per month. Historical data is available for \$400 for End of Day, and \$500 Intra-Day. See Cboe U.S. Options Fee Schedules (Cboe Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/ctwo/](https://www.cboe.com/us/options/membership/fee_schedule/ctwo/). Cboe BZX offers end of day data for \$500, intra-day for \$1,500; end of day historical data is \$400 per month, and intra-day data is \$750 per month. See Cboe U.S. Options Fee Schedules (BZX Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/bzx](https://www.cboe.com/us/options/membership/fee_schedule/bzx). Cboe EDGX end of day data is \$500 per month, Intra-Day data is \$1,000 per month; historical data is \$400 for end of day, and \$750 for intra-day. See Cboe U.S. Options Fee Schedules (EDGX Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/edgx/](https://www.cboe.com/us/options/membership/fee_schedule/edgx/). MIAX Options, MIAX Pearl and MIAX Emerald are \$600 per month for end of day, and \$2,000 per month for intra-day. See MIAX Options Exchange Fee Schedule (July 12, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Options\\_Fee\\_Schedule\\_07122021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Options_Fee_Schedule_07122021.pdf); MIAX Pearl Options Exchange Fee Schedule (July 1, 2021), available at



with the ability to create and test trading models and analytic strategies and build customized sentiment indicators using options transaction data. The value of PHOTO, and similar products, is determined in part by the number of underlying transactions reflected in the data, and in part by other factors such as the technical sophistication of the product.<sup>37</sup> The Exchange believes that the proposed fees reflect the current market value of this product, based on a comparison to the fees charged by competitors, adjusted by the relative value of the competitor products.<sup>38</sup> If the Exchange is incorrect in its assessment of the marketplace, current and prospective customers will elect not to purchase PHOTO.

Because fees are being set at market rates, we do not expect to see significant changes in sales for the core PHOTO products due to these particular fee changes,

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[https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Pearl\\_Options\\_Fee\\_Schedule\\_07012021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Pearl_Options_Fee_Schedule_07012021.pdf); MIAX Emerald Options Exchange Fee Schedule (July 1, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Emerald\\_Fee\\_Schedule\\_07012021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Emerald_Fee_Schedule_07012021.pdf).

<sup>37</sup> PHOTO was originally delivered via FTP files, but now is available through Report HQ, a technology that allows access to all Nasdaq reports, including PHOTO, via an “On-Demand” technology with secure user access that provides firms with more options to better manage their subscriptions. A description of Report HQ access is available here: <https://www.nasdaq.com/docs/NasdaqReportHQ.pdf>.

<sup>38</sup> The value of PHOTO has increased since the product was first established on September 1, 2010. See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121). The same is true for the historical PHOTO data. See Securities Exchange Act Release No. 63351 (November 19, 2010), 75 FR 73140 (November 29, 2010) (SR-Phlx-2010-154).

although, for the reasons discussed below, we do expect the discount on historical data to attract between 5 and 10 new customers.<sup>39</sup>

#### Discounts for 36 Months of Historical Data

PHOTO customers often purchase historical data with their subscription to create and test trading models and analytical strategies. To facilitate such testing and encourage new firms to purchase the product (and in particular to incentivize data vendors to develop new Derived Data products), the Exchange proposes an historical data discount for Current Distributors:<sup>40</sup> \$6,000 for the most recent 36 months<sup>41</sup> of End of Day data (one-third of the \$18,000 for 36 months at the proposed rate of \$500 per month); and \$12,000 for the most recent 36 months of Intra-Day data (one-third of the \$36,000 for 36 months at the proposed rate of \$1,000 per month). Current Distributors would be able to

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<sup>39</sup> As a conforming change, the Exchange also proposes to replace the word “Subscriber” with “Distributor.” A “Distributor” of Nasdaq PHLX data is “any entity that receives a feed or data file of data directly from Nasdaq PHLX or indirectly through another entity and then distributes it either internally (within that entity) or externally (outside that entity).” See Options 7, Section 10. The term “Subscriber” is not specifically defined in the Phlx Options fee schedule, but is defined in the PSX Equity schedule as “any access that a distributor of the data entitlement package(s) provides to: (1) access the information in the data entitlement package(s); or (2) communicate with the distributor so as to cause the distributor to access the information in the data entitlement package(s).” See Equity 7, PSX TotalView, Subsection (d). In light of these definitions, we believe that the term “Distributor” is a more apt term for purchasers of PHOTO information than the term “Subscriber.”

<sup>40</sup> A “Current Distributor” is any firm that purchases either the End of Day Product for the current month, or the Intra-Day Product for the current month in the same month that the 36 months of historical End of Day or Intra-Day data is ordered.

<sup>41</sup> The most recent 36 months is measured based on the date of purchase of the 36 months of data by a Current Distributor.

purchase both End of Day and Intra-Day data for \$18,000. Data for any months outside of the 36-month period would be purchased at the standard rates.<sup>42</sup>

The discount will depend on the type of subscription: a current purchaser of End of Day data would be eligible for the historical End of Day product at the reduced rate; a current purchaser of the Intra-Day product would be able to purchase the historical Intra-Day product at the reduced rate; and a purchaser of both the current End of Day and Intra-Day products would be entitled to purchase both types of history at the reduced rate.<sup>43</sup>

This discount will allow any customer with either a new or ongoing subscription to take advantage of the discounted rate. For example, a customer that buys the End of Day product for the first time in October 2021 would also be able to purchase historical End of Day data for the period September 2018 through September 2021 (inclusive) at the discounted rate. Similarly, a customer with a longstanding End of Day subscription that is current in October 2021 would be able to purchase the historical End of Day data from September 2018 through September 2021 at the discounted rate. The same reasoning would apply to Intra-Day customers.<sup>44</sup>

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<sup>42</sup> As a conforming change, the phrase “Charge per calendar month Requested” is replaced with the word “Fee” because of the special monthly rates for Current Distributors.

<sup>43</sup> Historical data is linked to the current product because effective historical testing requires a comparison of similar products. Effective testing of the End of Day product, for example, requires End of Day historical data, and the same would hold true for Intra-Day data.

<sup>44</sup> A customer may use the proposed historical data discount more than once. For example, a Current Distributor that purchases 36 months of historical data at a discount, but later terminates that subscription, would be eligible to purchase another 36 months of historical data (based on the date of purchase) upon renewing that subscription. (Current Distributors that never terminate would have

The proposed 36-month discount is based on customer feedback and our analysis of recent purchases. Customers have told us over the years that 36 months of historical data is optimal for testing. Although the median number of months for the purchase of historical data increased to 42 months over the past year, we determined that this was skewed by a large number of unusually large purchases, and decided to use the long-term average of 36 months as the most appropriate basis for the discount.

Any exchange that provides options trading statistics would be able to match the proposed discount for historical data through an immediately-effective fee filing with the Commission, thus subjecting the proposed fee change to competition.

We believe that the historical data discount will be attractive to our customers, and expect between 5 and 10 new distributors in the first year as a result.

#### Technical Change

The Exchange proposes to delete the footnote describing how historical data is charged as unnecessary.

#### Operative Date

The Exchange proposes the operative date to be October 1, 2021.

### 2. Statutory Basis

The Exchange believes that its proposal is consistent with Section 6(b) of the Act,<sup>45</sup> in general, and furthers the objectives of Sections 6(b)(4) and 6(b)(5) of the Act,<sup>46</sup> in particular, in that it provides for the equitable allocation of reasonable dues, fees and

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no need for a second purchase, as they would already possess the most recent months of historical data.).

<sup>45</sup> 15 U.S.C. 78f(b).

<sup>46</sup> 15 U.S.C. 78f(b)(4) and (5).

other charges among members and issuers and other persons using any facility, and is not designed to permit unfair discrimination between customers, issuers, brokers, or dealers.

Equitable Allocation of Reasonable Dues, Fees and Other Charges

As the Commission and courts<sup>47</sup> have recognized, “[i]f competitive forces are operative, the self-interest of the exchanges themselves will work powerfully to constrain unreasonable or unfair behavior.”<sup>48</sup> Accordingly, “the existence of significant competition provides a substantial basis for finding that the terms of an exchange’s fee proposal are equitable, fair, reasonable, and not unreasonably or unfairly discriminatory.”<sup>49</sup> The Commission and the courts have repeatedly expressed their preference for competition over regulatory intervention in determining prices, products, and services in the securities markets. In Regulation NMS, while adopting a series of steps to improve the current market model, the Commission highlighted the importance of market forces in determining prices and SRO revenues, and also recognized that

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<sup>47</sup> The decision of the United States Court of Appeals for the District of Columbia Circuit in NetCoalition v. SEC, 615 F.3d 525 (D.C. Cir. 2010) upheld the Commission’s reliance upon competitive markets to set reasonable and equitably allocated fees for market data. “In fact, the legislative history indicates that the Congress intended that the market system evolve through the interplay of competitive forces as unnecessary regulatory restrictions are removed and that the SEC wield its regulatory power in those situations where competition may not be sufficient, such as in the creation of a consolidated transactional reporting system.” NetCoalition I, at 535 (quoting H.R. Rep. No. 94-229, at 92 (1975), *as reprinted in* 1975 U.S.C.C.A.N. 321, 323) (internal quotation marks omitted). The court agreed with the Commission’s conclusion that “Congress intended that competitive forces should dictate the services and practices that constitute the U.S. national market system for trading equity securities.” Id. (quoting Securities Exchange Act Release No. 59039 (December 2, 2008), 73 FR 74770, 74,771 (December 9, 2008) (SR-NYSEArca-2006-21)).

<sup>48</sup> See Securities Exchange Act Release No. 59039 (December 2, 2008), 73 FR 74770 (December 9, 2008) (SR-NYSEArca-2006-21).

<sup>49</sup> See id.

current regulation of the market system “has been remarkably successful in promoting market competition in its broader forms that are most important to investors and listed companies.”<sup>50</sup>

PHOTO is in direct competition with 10 options trading products that serve as substitutes for PHOTO information.<sup>51</sup> All of these products offer the same type of data content through end of day or intra-day reports, and in general differ only with respect to the amount of history available.<sup>52</sup> A small amount of the information available on PHOTO is also available on the OPRA feed.<sup>53</sup>

Purchase of PHOTO, like all market data products, is optional.<sup>54</sup> PHOTO is designed to help investors understand underlying market trends to improve the quality of

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<sup>50</sup> See Securities Exchange Act Release No. 51808 (June 9, 2005), 70 FR 37496, 37499 (June 29, 2005) (“Regulation NMS Adopting Release”).

<sup>51</sup> These substitute products are: NOTO, ISE Trade Profile, GEMX Trade Profile data; open-close data from Cboe C1, C2, BZX, and EDGX; and Open Close Reports from MIAX Options, Pearl, and Emerald. The Exchange understands that similar products for BX Options and MRX will be forthcoming.

<sup>52</sup> For example, Cboe offers history for their end of day data back through January 1990 while PHOTO End of Day history is only offered back through January 2009. Also, Cboe offers intra-day history back through Oct 2019 while PHOTO Intra-Day is offered through Jan 2009.

<sup>53</sup> The overlap is limited to open interest and total industry volume.

<sup>54</sup> Staff Guidance on SRO Filings Related to Fees states that “any discussion of alternatives should include a discussion of how regulatory requirements, particularly best execution obligations, Regulation NMS Rule 611 (the Order Protection Rule), and/or the Options Order Protection and Locked/Crossed Market Plan (Options Linkage Plan), as applicable, affect the competitive analysis.” See Division of Trading and Markets, U.S. Securities and Exchange Commission, “Staff Guidance on SRO Filings Related to Fees” (May 21, 2019), available at <https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees> (“Staff Guidance”). Given that PHOTO is an optional analytic product, other regulatory requirements are inapplicable.

investment decisions, but is not necessary to execute a trade. Customers can, and do, choose to forego the information from PHOTO or any of its competitor products when making a trade, as is evident from the relatively small number of current subscribers. As noted, a monthly average of only 26 customers over the past year subscribed to either the End of Day or Intra-Day products.<sup>55</sup>

Each of the three proposed changes—allowing the external distribution of derived data, modifying fees to reflect current market value, and discounting historical data—is subject to competition, both separately and together. As a whole, the Proposals will expand and enhance that competition.

First, the proposal to allow the external distribution of derived data is subject to competition as discussed above, and also introduces a new category of market participant—market data vendors—into the equation. Under the current rulebook, PHOTO data is not available for redistribution, in either native form or through Derived Data.<sup>56</sup> This proposal will create a new market for the sale of Derived Data products to the general investing public. This is itself evidence of the competitive environment for PHOTO and its substitutes, as it is exactly the type of innovation one would expect to see in a competitive market. It will also spur further innovation by challenging market data vendors to create new and innovative Derived Data products. Any exchange that wishes

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<sup>55</sup> Staff Guidance, Supra n. 59, indicates that an SRO may estimate elasticity of demand for a product as part of the fee proposal. Such estimation is impossible in the case of PHOTO, which has not had a price change in nearly 10 years, and more generally is inapposite for any product subject to overall competition among exchange platforms.

<sup>56</sup> See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121) (stating that “PHOTO is available only for internal use and distribution by subscribers.”).

to allow distribution of a Derived Data product based on options trading information would be able to do so with an immediately-effective fee filing similar to this Proposal, most likely without requiring any technological enhancement to the underlying product.

Allowing the redistribution of Derived Data, but not the underlying information, to the general investing public is an equitable allocation of reasonable dues, fees and other charges because it is the most efficient mechanism for widespread delivery of market sentiment information. As explained above, the proposal is designed to promote the dissemination of a variety of analytical insights—previously available only to investment banks, market makers, asset managers and other buy-side investors—to the general investing public by creating an incentive for market data vendors to identify, develop, and sell such indicators. Ordinarily, neither exchanges nor vendors allow redistribution of analytic products—such products are typically designed solely for the use of direct customers, not for redistribution to the customers of customers in the manner of a data feed. Allowing the redistribution of Derived Data provides an incentive for vendors to innovate with new compelling and varied analytic products for the general investing public that will provide access to market sentiment insights currently available only to sophisticated investors.

Second, the proposed adjustments to PHOTO fees reflect the Exchange's assessment of the current marketplace, based on a review of fees for substitute products, particularly those offered by Cboe and MIAX.<sup>57</sup> As explained above, PHOTO provides

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<sup>57</sup> Cboe (C1) offers end of day data for \$600 per month, and intra-day data for \$2,000 per month. For historical data, 1-4 years are available for \$600/month, and 5+ years of data are available for \$300 per month. See Cboe Exchange, Inc. Fee Schedule (July 1, 2021) available at [https://cdn.cboe.com/resources/membership/Cboe\\_FeeSchedule.pdf](https://cdn.cboe.com/resources/membership/Cboe_FeeSchedule.pdf). Cboe (C2)



customers with the ability to create and test trading models and analytic strategies and build customized sentiment indicators using options transaction data. The value of PHOTO, and similar products, is determined in part by the number of underlying transactions reflected in the data, and in part the technical sophistication of the product.<sup>58</sup> The Exchange believes that the proposed fees reflect the current market value of this product, based on a comparison to the fees charged by competitors, adjusted by the

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offers end of day data for \$500 per month, and Intra-Day data for \$1,000 per month. Historical data is available for \$400 for End of Day, and \$500 Intra-Day. See Cboe U.S. Options Fee Schedules (Cboe Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/ctwo/](https://www.cboe.com/us/options/membership/fee_schedule/ctwo/) Cboe BZX offers end of day data for \$500, intra-day for \$1,500; end of day historical data is \$400 per month, and intra-day data is \$750 per month. See Cboe U.S. Options Fee Schedules (BZX Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/bzx](https://www.cboe.com/us/options/membership/fee_schedule/bzx) Cboe EDGX end of day data is \$500 per month, Intra-Day data is \$1,000 per month; historical data is \$400 for end of day, and \$750 for intra-day. See Cboe U.S. Options Fee Schedules (EDGX Options) (June 1, 2021) available at [https://www.cboe.com/us/options/membership/fee\\_schedule/edgx/](https://www.cboe.com/us/options/membership/fee_schedule/edgx/) MIAX Options, MIAX Pearl and MIAX Emerald are \$600 per month for end of day, and \$2,000 per month for intra-day. See MIAX Options Exchange Fee Schedule (July 12, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Options\\_Fee\\_Schedule\\_07122021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Options_Fee_Schedule_07122021.pdf); MIAX Pearl Options Exchange Fee Schedule (July 1, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Pearl\\_Options\\_Fee\\_Schedule\\_07012021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Pearl_Options_Fee_Schedule_07012021.pdf); MIAX Emerald Options Exchange Fee Schedule (July 1, 2021), available at [https://www.miaxoptions.com/sites/default/files/fee\\_schedule-files/MIAX\\_Emerald\\_Fee\\_Schedule\\_07012021.pdf](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_Emerald_Fee_Schedule_07012021.pdf).

<sup>58</sup> PHOTO was originally delivered via FTP files, but now is available through Report HQ, a technology that allows access to all Nasdaq reports, including PHOTO, via an “On-Demand” technology with secure user access that provides firms with more options to better manage their subscriptions. A description of Report HQ access is available here: <https://www.nasdaq.com/docs/NasdaqReportHQ.pdf>.

relative value of the competitor products.<sup>59</sup> If the Exchange is incorrect in its assessment of the marketplace, current and prospective customers will elect not to purchase PHOTO.

Third, offering historical data at a discount is yet another example of how the competitive marketplace works to constrain prices. In order to effectively compete, the Exchange proposes to reduce the price of historical data to: (i) encourage vendors to test the product for the first time and develop Derived Data products, and (ii) incentivize those categories of market participants that currently purchase the product—investment banks, market makers, asset managers and other buy-side investors—to test new trading models and analytical strategies. As explained above, the Exchange believes that this 36-month period is optimal for testing based on customer feedback and our analysis of recent purchases, and expects this new fee structure to be attractive for both old and new customers. Options exchanges that offer substitute products would be able to reduce the price of their historical data through an immediately-effective fee filing at any time in response.

For all of these reasons, each aspect of the proposal, separately and together, is subject to competition, and therefore provides for the equitable allocation of reasonable dues, fees and other charges among members and issuers and other persons using any facility.

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<sup>59</sup> The value of PHOTO has increased since the product was first established on September 1, 2010. See Securities Exchange Act Release No. 62887 (September 10, 2010), 75 FR 57092 (September 17, 2010) (SR-Phlx-2010-121). The same is true for the historical PHOTO data. See Securities Exchange Act Release No. 63351 (November 19, 2010), 75 FR 73140 (November 29, 2010) (SR-Phlx-2010-154).

### The Proposal Does Not Permit Unfair Discrimination

Nothing in the Proposal treats any category of market participant any differently from any other category of market participant. On the contrary, the Proposal expands distribution of PHOTO information beyond investment banks, market makers, asset managers and other buy-side investors to market data vendors and the general investing public. Allowing the distribution of Derived Data to the general investing public will broaden the availability of such information while not treating any current recipient of the product differently in any way. The new fee structure, which modifies fees to reflect current market value and offers historical data at a discount, applies equally to all current and potential distributors. PHOTO is available to all market participants, including members and non-members, and all market participants receive the same information in the PHOTO data feed.

With respect to the specific fee changes, it is reasonable and not unfair discrimination to charge an external distributor of Derived Data a \$5,000 licensing fee. Vendors will ordinarily charge a fee to their downstream customers for this service, and, even if the vendor is not charging a specific fee for this particular service, Derived Data products from PHOTO will be part of a suite of offerings that generally promote sales. External distribution is fundamentally different than internal use, in that the former generates revenue from external sales while the latter does not. It is not unfair discrimination to charge a licensing fee for a product that generates downstream revenue.

Nor is it unfair discrimination to allow the redistribution of Derived Data, but not the underlying information, to the general investing public. As explained above, neither exchanges nor vendors ordinarily allow redistribution of analytic products—such

products are typically designed solely for the use of direct customers, not for redistribution to the customers of customers in the manner of a data feed. Allowing the redistribution of Derived Data provides an incentive for vendors to innovate with new compelling and varied analytic products for the general investing public that will provide access to market sentiment insights currently available only to sophisticated investors. This proposal is therefore not unfair discrimination, but rather allows for more equitable access to market sentiment information to the general investing public.

It is also not unfair discrimination to provide a discount for 36 months of historical data to current distributors, but not former distributors or firms that have never purchased the product. Any firm would be able to become a current distributor at any time by subscribing to the PHOTO service, and would be able to cancel the subscription at any time after receiving the 36 months of historical data for the proposed discounted fee. It is not unfair discrimination to limit the historical data discount to current distributors, as they are in the best position to benefit from the historical data, whereas firms that do not currently receive the service would have little use for the information.

For all of these reasons, the Proposal does not permit unfair discrimination.

B. Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change will impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act.

The Exchange operates in a highly competitive environment in which the Exchange must continually adjust its fees to remain competitive. Because competitors are free to modify their own fees in response, the Exchange believes that the degree to

which fee changes in this market may impose any burden on competition is extremely limited.

#### Intermarket Competition

As discussed in detail under Statutory Basis, PHOTO is subject to direct competition from the ten other options exchanges that offer substitutes to PHOTO. Moreover, purchase of PHOTO is optional. It is designed to help investors understand underlying market trends to improve the quality of investment decisions, but is not necessary to execute a trade.

The Proposal is grounded in the Exchange's efforts to compete more effectively. The Exchange is proposing to broaden distribution of PHOTO information beyond investment banks, market makers, asset managers and other buy-side investors to market data vendors and the general investing public, and to provide a discount for distributors to test investment strategies and trading models, and develop market sentiment indicators. These changes will not cause any unnecessary or inappropriate burden on intermarket competition, but rather will promote competition by expanding the market for PHOTO data and encouraging new distributors to investigate the product. Other exchanges are, of course, free to match these changes or undertake other competitive responses, enhancing overall competition.

#### Intramarket Competition

The Proposal will not cause any unnecessary or inappropriate burden on intramarket competition. On the contrary, it will foster competition by expanding dissemination of data to vendors and the general investing public, and by encouraging

more market participants to use PHOTO data to help inform their investments strategies and analytic models.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others

No written comments were either solicited or received.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

The foregoing rule change has become effective pursuant to Section 19(b)(3)(A)(ii) of the Act.<sup>60</sup>

At any time within 60 days of the filing of the proposed rule change, the Commission summarily may temporarily suspend such rule change if it appears to the Commission that such action is: (i) necessary or appropriate in the public interest; (ii) for the protection of investors; or (iii) otherwise in furtherance of the purposes of the Act. If the Commission takes such action, the Commission shall institute proceedings to determine whether the proposed rule should be approved or disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

Electronic comments:

- Use the Commission's Internet comment form

(<http://www.sec.gov/rules/sro.shtml>); or

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<sup>60</sup> 15 U.S.C. 78s(b)(3)(A)(ii).

- Send an e-mail to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-Phlx-2021-58 on the subject line.

Paper comments:

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

All submissions should refer to File Number SR-Phlx-2021-58. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (<http://www.sec.gov/rules/sro.shtml>).

Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street, NE, Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly.

All submissions should refer to File Number SR-Phlx-2021-58 and should be submitted on or before [insert date 21 days from publication in the Federal Register].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>61</sup>

J. Matthew DeLesDernier  
Assistant Secretary

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<sup>61</sup> 17 CFR 200.30-3(a)(12).



**EXHIBIT 5**

Deleted text is [bracketed]. New text is underlined.

**Nasdaq PHLX LLC Rules****Options Rules****Options 7 Pricing Schedule**

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**Section 10. Proprietary Data Feed Fees**

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**PHLX Options Trade Outline (“PHOTO”)**

<b>Account Type</b>	<b>Monthly Charge</b>
End of Day Product [Subscriber] <u>Distributor:</u>	[\$500] <u>\$750</u>
Intra-Day Product [Subscriber] <u>Distributor:</u>	[\$1,500] <u>\$2,500</u>

**PHOTO Historical Data**

<b>Account Type</b>	<b>[Charge per calendar month Requested]<u>Fee</u></b>
End of Day Product [Subscriber] <u>Distributor:</u>	[\$400] <u>\$500 per month</u>
<u>Historical Data for Current End of Day Product Distributors:</u>	<u>\$6,000 for the most recent 36 months</u>
Intra-Day Product [Subscriber] <u>Distributor:</u>	[\$750] <u>\$1,000 per month</u>
<u>Historical Data for Current Intra- Day Product Distributors:</u>	<u>\$12,000 for the most recent 36 months</u>

A “Current Distributor” is any firm that purchases either the End of Day Product for the current month, or the Intra-Day Product for the current month in the same month that the 36 months of historical End of Day or Intra-Day data is ordered.

The most recent 36 months is measured based on the date of purchase of the 36 months of data by a Current Distributor.

**External Distribution**

Unlimited External Distribution of     \$5,000 per month  
Derived Data from PHOTO:

Fees for external distribution of Derived Data from PHOTO are in addition to fees for the End of Day product or the Intra-Day product, or both, as applicable.

“Derived Data” is any information generated in whole or in part from Exchange Information such that the information generated cannot be reverse engineered to recreate Exchange Information, or be used to create other data that is recognizable as a reasonable substitute for such Exchange Information.

“Exchange Information” is any data or information that has been collected, validated, processed and/or recorded by the Exchange and made available for transmission relating to: (i) eligible securities or other financial instruments, markets, products, vehicles, indicators or devices; (ii) activities of the Exchange; or (iii) other information or data from the Exchange. Information includes, but is not limited to, any element of information used or processed in such a way that Exchange Information or a substitute for such Information can be identified, recalculated or re-engineered from the processed information.

[<sup>9</sup> For example, a subscriber who requests End of Day PHOTO Historical Data for the Month of March, 2009 would be charged \$400. A subscriber who requests End of Day PHOTO Historical Data for the months of March, 2009 and April, 2009 would be charged \$400 for the March, 2009 End of Day data and \$400 for the April, 2009 End of day data, for a total of \$800, etc. A subscriber who requests Intra-Day PHOTO Historical Data for the Month of March, 2009 would be charged \$750.00. A subscriber who requests Intra-Day PHOTO Historical Data for the months of March, 2009 and April, 2009 would be charged \$750 for the March, 2009 Intra-Day data and \$750 for the April, 2009 Intra-Day data, for a total of \$1,500, etc.]

End of Day and Intra-Day reports for the period January 1, 2014, through June 30, 2014, will be available free of charge on the NasdaqTrader website ([www.nasdatrader.com](http://www.nasdatrader.com)), or a successor website, to allow access to PHOTO Historical Data for this period.

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