This document is scheduled to be published in the Federal Register on 07/03/2023 and available online at **federalregister.gov/d/2023-14020**, and on **govinfo.gov**

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34-97815; File No. SR-PEARL-2023-27]

Self-Regulatory Organizations; MIAX PEARL, LLC; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the MIAX Pearl Options Fee Schedule to Modify Certain Connectivity and Port Fees

June 27, 2023.

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"),[1] and Rule 19b-4 thereunder,[2] notice is hereby given that on June 16, 2023, MIAX PEARL, LLC ("MIAX Pearl" or "Exchange") filed with the Securities and Exchange Commission ("Commission") a 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 is filing a proposal to amend the MIAX Pearl Options Fee Schedule (the "Fee Schedule") to amend certain connectivity and port fees.[3]

The text of the proposed rule change is available on the Exchange's website at http://www.miaxoptions.com/rule-filings/pearl at MIAX Pearl's principal office, and at the Commission's Public Reference Room.

---

1 15 U.S.C. 78s(b)(1).

2 17 CFR 240.19b-4.

3 All references to the "Exchange" in this filing mean MIAX Pearl Options. Any references to the equities trading facility of MIAX PEARL, LLC, will specifically be referred to as "MIAX Pearl Equities."

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

The Exchange proposes to amend the Fee Schedule as follows: (1) increase the fees for a 10 gigabit ("Gb") ultra-low latency ("ULL") fiber connection for Members[4] and non-Members; (2) amend the calculation of fees for MIAX Express Network Full Service ("MEO")[5] Ports (Bulk and Single); and (3) amend the fees for Full Service MEO Ports (Bulk and Single). The Exchange and its affiliate, Miami International Securities Exchange, LLC ("MIAX") operated 10Gb ULL connectivity on a single shared network that provided access to both exchanges via a single 10Gb ULL connection. The Exchange last increased fees for 10Gb ULL connections from $9,300 to $10,000 per month on January 1, 2021.[6] At the same time, MIAX also increased its 10Gb ULL connectivity fee from $9,300 to $10,000 per month.[7] The Exchange and MIAX shared a combined cost analysis in those filings due to the single shared 10Gb ULL connectivity

---

4 The term "Member" means an individual or organization approved to exercise the trading rights associated with a Trading Permit. Members are deemed "members" under the Exchange Act. See Exchange Rule 100.

5 The term "MEO Interface" or "MEO" means a binary order interface for certain order types as set forth in Rule 516 into the MIAX Pearl System. See the Definitions Section of the Fee Schedule and Exchange Rule 100.

6 See Securities Exchange Act Release No. 90981 (January 25, 2021), 86 FR 7582 (January 29, 2021) (SR-PEARL-2021-01).

7 See Securities Exchange Act Release No. 90980 (January 25, 2021), 86 FR 7602 (January 29, 2021) (SR-MIAX-2021-02).

network for both exchanges. In those filings, the Exchange and MIAX allocated a combined total of $17.9 million in expenses to providing 10Gb ULL connectivity.[8]

Beginning in late January 2023, the Exchange also recently determined a substantial operational need to no longer operate 10Gb ULL connectivity on a single shared network with MIAX. The Exchange bifurcated 10Gb ULL connectivity due to ever-increasing capacity constraints and to enable it to continue to satisfy the anticipated access needs for Members and other market participants.[9] Since the time of the 2021 increase discussed above, [10] the Exchange experienced ongoing increases in expenses, particularly internal expenses.[11] As discussed more fully below, the Exchange recently calculated increased annual aggregate costs of $11,567,509 for providing 10Gb ULL connectivity on a single unshared network (an overall increase over its prior cost to provide 10Gb ULL connectivity on a shared network with MIAX) and $1,644,132 for providing Full Service MEO Ports.[12]

---

8 See id.

9 See MIAX Options and MIAX Pearl Options - Announce planned network changes related to shared 10G ULL extranet, issued August 12, 2022, available at https://www.miaxglobal.com/alert/2022/08/12/miax-options-and-miax-pearl-options-announce-planned-network-changes-0. The Exchange will continue to provide access to both the Exchange and MIAX over a single shared 1Gb connection. See Securities Exchange Act Release Nos. 96553 (December 20, 2022), 87 FR 79379 (December 27, 2022) (SR-PEARL-2022-60); 96545 (December 20, 2022) 87 FR 79393 (December 27, 2022) (SR-MIAX-2022-48).

10 The Exchange notes it last filed to amend the fees for Full Service MEO Ports in 2018 (excluding filings made in July 2021 through early 2022), prior to which the Exchange provided Full Service MEO Ports free of charge since the it launched operations in 2017 and absorbed all costs since that time. See Securities Exchange Act Release No. 82867 (March 13, 2018), 83 FR 12044 (March 19, 2018) (SR-PEARL-2018-07).

11 For example, the New York Stock Exchange, Inc.'s ("NYSE") Secure Financial Transaction Infrastructure ("SFTI") network, which contributes to the Exchange's connectivity cost, increased its fees by approximately 9% since 2021. Similarly, since 2021, the Exchange, and its affiliates, experienced an increase in data center costs of approximately 17% and an increase in hardware and software costs of approximately 19%. These percentages are based on the Exchange's actual 2021 and proposed 2023 budgets.

12 For the avoidance of doubt, all references to costs in this filing, including the cost categories discussed below, refer to costs incurred by MIAX Pearl Options only and not MIAX Pearl Equities, the equities trading facility.

Much of the cost relates to monitoring and analysis of data and performance of the network via the subscriber's connection with nanosecond granularity, and continuous improvements in network performance with the goal of improving the subscriber's experience. The costs associated with maintaining and enhancing a state-of-the-art network is a significant expense for the Exchange, and thus the Exchange believes that it is reasonable and appropriate to help offset those increased costs by amending fees for connectivity services. Subscribers expect the Exchange to provide this level of support so they continue to receive the performance they expect. This differentiates the Exchange from its competitors.

The Exchange now proposes to amend the Fee Schedule to amend the fees for 10Gb ULL connectivity and Full Service MEO Ports (Bulk and Single) in order to recoup cost related to bifurcating 10Gb connectivity to the Exchange and MIAX as well as the ongoing costs and increase in expenses set forth below in the Exchange's cost analysis.[13] The Exchange proposes to implement the changes to the Fee Schedule pursuant to this proposal immediately. The Exchange initially filed the proposal on December 30, 2022 (SR-PEARL-2022-62) (the "Initial Proposal").[14] On February 23, 2023, the Exchange withdrew the Initial Proposal and replaced it with a revised proposal (SR-PEARL-2023-08) (the "Second Proposal").[15] On April 20, 2023, the Exchange withdrew the Second Proposal and replaced it with a revised proposal (SR-PEARL-2023-19) (the "Third Proposal").[16] On June 16, 2023, the Exchange withdrew the Third Proposal and replaced it with this further revised proposal (SR-PEARL-2023-27).[17].

---

13 The Exchange notes that MIAX will make a similar filing to increase its 10Gb ULL connectivity fees.

14 See Securities Exchange Act Release No. 96632 (January 10, 2023), 88 FR 2707 (January 17, 2023) (SR-PEARL-2022-62).

15 See Securities Exchange Act Release No. 97082 (March 8, 2023), 88 FR 15825 (March 14, 2023) (SR-PEARL-2023-05).

16 See Securities Exchange Act Release No. 97420 (May 2, 2023), 88 FR 29701 (May 8, 2023) (SR-PEARL-2023-19).

17 The Exchange met with Commission Staff to discuss the Third Proposal during which the Commission Staff provided feedback and requested additional information, including, most recently, information about total costs related to certain third party

The Exchange previously included a cost analysis in the Initial, Second, and Third Proposals. As described more fully below, the Exchange provides an updated cost analysis that includes, among other things, additional descriptions of how the Exchange allocated costs among it and its affiliated exchanges (separately among MIAX Pearl Options and MIAX Pearl Equities, MIAX and MIAX Emerald[18] (together with MIAX and MIAX Pearl Equities, the "affiliated markets")) to ensure no cost was allocated more than once, as well as additional detail supporting its cost allocation processes and explanations as to why a cost allocation in this proposal may differ from the same cost allocation in a similar proposal submitted by one of its affiliated exchanges. Although the baseline cost analysis used to justify the proposed fees was made in the Initial, Second, and Third Proposals, the fees themselves have not changed since the Initial, Second, or Third Proposals and the Exchange still proposes fees that are intended to cover the Exchange's cost of providing 10Gb ULL connectivity and Full Service MEO Ports with a reasonable mark-up over those costs.

* * * * *

Starting in 2017, following the United States Court of Appeals for the District of Columbia's Susquehanna Decision[19] and various other developments, the Commission began to undertake a heightened review of exchange filings, including non-transaction fee filings that was substantially and materially different from it prior review process (hereinafter referred to as

---

vendors. Such vendor cost information is subject to confidentiality restrictions. The Exchange has provided this information to Commission Staff under separate cover with a request for confidentiality. While the Exchange will continue to be responsive to Commission Staff's information requests, the Exchange believes that the Commission should, at this point, issue substantially more detailed guidance for exchanges to follow in the process of pursuing a cost-based approach to fee filings, and that, for the purposes of fair competition, detailed disclosures by exchanges, such as those that the Exchange is providing now, should be consistent across all exchanges, including for those that have resisted a cost-based approach to fee filings, in the interests of fair and even disclosure and fair competition.

18 The term "MIAX Emerald" means MIAX Emerald, LLC. See Exchange Rule 100.

19 See Susquehanna International Group, LLP v. Securities & Exchange Commission, 866 F.3d 442 (D.C. Circuit 2017) (the "Susquehanna Decision").

the "Revised Review Process"). In the Susquehanna Decision, the D.C. Circuit Court stated that the Commission could not maintain a practice of "unquestioning reliance" on claims made by a self-regulatory organization ("SRO") in the course of filing a rule or fee change with the Commission.[20] Then, on October 16, 2018, the Commission issued an opinion in Securities Industry and Financial Markets Association finding that exchanges failed both to establish that the challenged fees were constrained by significant competitive forces and that these fees were consistent with the Act.[21] On that same day, the Commission issued an order remanding to various exchanges and national market system ("NMS") plans challenges to over 400 rule changes and plan amendments that were asserted in 57 applications for review (the "Remand Order").[22] The Remand Order directed the exchanges to "develop a record," and to "explain their conclusions, based on that record, in a written decision that is sufficient to enable us to perform our review."[23] The Commission denied requests by various exchanges and plan participants for reconsideration of the Remand Order.[24] However, the Commission did extend the deadlines in the Remand Order "so that they d[id] not begin to run until the resolution of the appeal of the SIFMA Decision in the D.C. Circuit and the issuance of the court's mandate."[25] Both the Remand Order and the Order Denying Reconsideration were appealed to the D.C. Circuit.

---

20 Id.

21 See Sec. Indus. & Fin. Mkts. Ass'n, Securities Exchange Act Release No. 84432, 2018 WL 5023228 (October 16, 2018) (the "SIFMA Decision").

22 See Sec. Indus. & Fin. Mkts. Ass'n, Securities Exchange Act Release No. 84433, 2018 WL 5023230 (Oct. 16, 2018). See 15 U.S.C. §§ 78k-1, 78s; see also Rule 608(d) of Regulation NMS, 17 C.F.R. § 242.608(d) (asserted as an alternative basis of jurisdiction in some applications).

23 Id. at page 2.

24 Sec. Indus. & Fin. Mkts. Ass'n, Securities Exchange Act Release No. 85802, 2019 WL 2022819 (May 7, 2019) (the "Order Denying Reconsideration").

25 Order Denying Reconsideration, 2019 WL 2022819, at *13.

While the above appeal to the D.C. Circuit was pending, on March 29, 2019, the Commission issued an order disapproving a proposed fee change by BOX Exchange LLC ("BOX") to establish connectivity fees (the "BOX Order"), which significantly increased the level of information needed for the Commission to believe that an exchange's filing satisfied its obligations under the Act with respect to changing a fee.[26] Despite approving hundreds of access fee filings in the years prior to the BOX Order (described further below) utilizing a "market-based" test, the Commission changed course and disapproved BOX's proposal to begin charging connectivity at one-fourth the rate of competing exchanges' pricing.

Also while the above appeal was pending, on May 21, 2019, the Commission Staff issued guidance "to assist the national securities exchanges and FINRA … in preparing Fee Filings that meet their burden to demonstrate that proposed fees are consistent with the requirements of the Securities Exchange Act."[27] In the Staff Guidance, the Commission Staff states that, "[a]s an initial step in assessing the reasonableness of a fee, staff considers whether the fee is constrained by significant competitive forces."[28] The Staff Guidance also states that, "… even where an SRO cannot demonstrate, or does not assert, that significant competitive forces constrain the fee at issue, a cost-based discussion may be an alternative basis upon which to show consistency with the Exchange Act."[29]

---

26 See Securities Exchange Act Release No. 85459 (March 29, 2019), 84 FR 13363 (April 4, 2019) (SR-BOX-2018-24, SR-BOX-2018-37, and SR-BOX-2019-04) (Order Disapproving Proposed Rule Changes to Amend the Fee Schedule on the BOX Market LLC Options Facility to Establish BOX Connectivity Fees for Participants and Non-Participants Who Connect to the BOX Network). The Commission noted in the BOX Order that it "historically applied a 'market-based' test in its assessment of market data fees, which [the Commission] believe[s] present similar issues as the connectivity fees proposed herein." Id. at page 16. Despite this admission, the Commission disapproved BOX's proposal to begin charging $5,000 per month for 10Gb connections (while allowing legacy exchanges to charge rates equal to 3-4 times that amount utilizing "market-based" fee filings from years prior).

27 See Staff Guidance on SRO Rule Filings Relating to Fees (May 21, 2019), available at https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees (the "Staff Guidance").

28 Id.

29 Id.

Following the BOX Order and Staff Guidance, on August 6, 2020, the D.C. Circuit vacated the Commission's SIFMA Decision in NASDAQ Stock Market, LLC v. SEC[30] and remanded for further proceedings consistent with its opinion.[31] That same day, the D.C. Circuit issued an order remanding the Remand Order to the Commission for reconsideration in light of NASDAQ. The court noted that the Remand Order required the exchanges and NMS plan participants to consider the challenges that the Commission had remanded in light of the SIFMA Decision. The D.C. Circuit concluded that because the SIFMA Decision "has now been vacated, the basis for the [Remand Order] has evaporated."[32] Accordingly, on August 7, 2020, the Commission vacated the Remand Order and ordered the parties to file briefs addressing whether the holding in NASDAQ v. SEC that Exchange Act Section 19(d) does not permit challenges to generally applicable fee rules requiring dismissal of the challenges the Commission previously remanded.[33] The Commission further invited "the parties to submit briefing stating whether the challenges asserted in the applications for review … should be dismissed, and specifically identifying any challenge that they contend should not be dismissed pursuant to the holding of Nasdaq v. SEC."[34] Without resolving the above issues, on October 5, 2020, the Commission issued an order granting SIFMA and Bloomberg's request to withdraw their applications for review and dismissed the proceedings.[35]

---

30 NASDAQ Stock Mkt., LLC v. SEC, No 18-1324, --- Fed. App'x ----, 2020 WL 3406123 (D.C. Cir. June 5, 2020). The court's mandate was issued on August 6, 2020.

31 Nasdaq v. SEC, 961 F.3d 421, at 424, 431 (D.C. Cir. 2020). The court's mandate issued on August 6, 2020. The D.C. Circuit held that Exchange Act "Section 19(d) is not available as a means to challenge the reasonableness of generally-applicable fee rules." Id. The court held that "for a fee rule to be challengeable under Section 19(d), it must, at a minimum, be targeted at specific individuals or entities." Id. Thus, the court held that "Section 19(d) is not an available means to challenge the fees at issue" in the SIFMA Decision. Id.

32 Id. at *2; see also id. ("[T]he sole purpose of the challenged remand has disappeared.").

33 Sec. Indus. & Fin. Mkts. Ass'n, Securities Exchange Act Release No. 89504, 2020 WL 4569089 (August 7, 2020) (the "Order Vacating Prior Order and Requesting Additional Briefs").

34 Id.

35 Sec. Indus. & Fin. Mkts. Ass'n, Securities Exchange Act Release No. 90087 (October 5,

As a result of the Commission's loss of the NASDAQ vs. SEC case noted above, the Commission never followed through with its intention to subject the over 400 fee filings to "develop a record," and to "explain their conclusions, based on that record, in a written decision that is sufficient to enable us to perform our review."[36] As such, all of those fees remained in place and amounted to a baseline set of fees for those exchanges that had the benefit of getting their fees in place before the Commission Staff's fee review process materially changed. The net result of this history and lack of resolution in the D.C. Circuit Court resulted in an uneven competitive landscape where the Commission subjects all new non-transaction fee filings to the new Revised Review Process, while allowing the previously challenged fee filings, mostly submitted by incumbent exchanges prior to 2019, to remain in effect and not subject to the "record" or "review" earlier intended by the Commission.

While the Exchange appreciates that the Staff Guidance articulates an important policy goal of improving disclosures and requiring exchanges to justify that their market data and access fee proposals are fair and reasonable, the practical effect of the Revised Review Process, Staff Guidance, and the Commission's related practice of continuous suspension of new fee filings, is anti-competitive, discriminatory, and has put in place an un-level playing field, which has negatively impacted smaller, nascent, non-legacy exchanges ("non-legacy exchanges"), while favoring larger, incumbent, entrenched, legacy exchanges ("legacy exchanges").[37] The

---

2020).

36 See supra note 31, at page 2.

37 Commission Chair Gary Gensler recently reiterated the Commission's mandate to ensure competition in the equities markets. See "Statement on Minimum Price Increments, Access Fee Caps, Round Lots, and Odd-Lots", by Chair Gary Gensler, dated December 14, 2022 (stating "[i]n 1975, Congress tasked the Securities and Exchange Commission with responsibility to facilitate the establishment of the national market system and *enhance competition in the securities markets, including the equity markets*" (*emphasis added*)). In that same statement, Chair Gary Gensler cited the five objectives laid out by Congress in 11A of the Exchange Act (15 U.S.C. 78k-1), including ensuring "fair competition among brokers and dealers, among exchange markets, and *between exchange markets* and markets other than exchange markets… ."

legacy exchanges all established a significantly higher baseline for access and market data fees prior to the Revised Review Process. From 2011 until the issuance of the Staff Guidance in 2019, national securities exchanges filed, and the Commission Staff did not abrogate or suspend (allowing such fees to become effective), at least 92 filings[38] to amend exchange connectivity or port fees (or similar access fees). The support for each of those filings was a simple statement by the relevant exchange that the fees were constrained by competitive forces.[39] These fees remain in effect today.

The net result is that the non-legacy exchanges are effectively now blocked by the Commission Staff from adopting or increasing fees to amounts comparable to the legacy exchanges (which were not subject to the Revised Review Process and Staff Guidance), despite providing enhanced disclosures and rationale to support their proposed fee changes that far exceed any such support provided by legacy exchanges. Simply put, legacy exchanges were able to increase their non-transaction fees during an extended period in which the Commission applied a "market-based" test that only relied upon the assumed presence of significant competitive forces, while exchanges today are subject to a cost-based test requiring extensive cost and revenue disclosures, a process that is complex, inconsistently applied, and rarely results

---

(*emphasis added*). Id. at note 1. See also Securities Acts Amendments of 1975, available at https://www.govtrack.us/congress/bills/94/s249.

38 This timeframe also includes challenges to over 400 rule filings by SIFMA and Bloomberg discussed above. Sec. Indus. & Fin. Mkts. Ass'n, Securities Exchange Act Release No. 84433, 2018 WL 5023230 (Oct. 16, 2018). Those filings were left to stand, while at the same time, blocking newer exchanges from the ability to establish competitive access and market data fees. See The Nasdaq Stock Market, LLC v. SEC, Case No. 18-1292 (D.C. Cir. June 5, 2020). The expectation at the time of the litigation was that the 400 rule flings challenged by SIFMA and Bloomberg would need to be justified under revised review standards.

39 See, e.g., Securities Exchange Act Release Nos. 74417 (March 3, 2015), 80 FR 12534 (March 9, 2015) (SR-ISE-2015-06); 83016 (April 9, 2018), 83 FR 16157 (April 13, 2018) (SR-PHLX-2018-26); 70285 (August 29, 2013), 78 FR 54697 (September 5, 2013) (SR-NYSEMKT-2013-71); 76373 (November 5, 2015), 80 FR 70024 (November 12, 2015) (SR-NYSEMKT-2015-90); 79729 (January 4, 2017), 82 FR 3061 (January 10, 2017) (SR-NYSEARCA-2016-172).

in a successful outcome, i.e., non-suspension. The Revised Review Process and Staff Guidance changed decades-long Commission Staff standards for review, resulting in unfair discrimination and placing an undue burden on inter-market competition between legacy exchanges and non-legacy exchanges.

Commission Staff now require exchange filings, including from non-legacy exchanges such as MIAX Pearl, to provide detailed cost-based analysis in place of competition-based arguments to support such changes. However, even with the added detailed cost and expense disclosures, the Commission Staff continues to either suspend such filings and institute disapproval proceedings, or put the exchanges in the unenviable position of having to repeatedly withdraw and re-file with additional detail in order to continue to charge those fees.[40] By impeding any path forward for non-legacy exchanges to establish commensurate non-transaction fees, or by failing to provide any alternative means for smaller markets to establish "fee parity" with legacy exchanges, the Commission is stifling competition: non-legacy exchanges are, in effect, being deprived of the revenue necessary to compete on a level playing field with legacy exchanges. This is particularly harmful, given that the costs to maintain exchange systems and operations continue to increase. The Commission Staff's change in position impedes the ability of non-legacy exchanges to raise revenue to invest in their systems to compete with the legacy exchanges who already enjoy disproportionate non-transaction fee based revenue. For example, the Cboe Exchange, Inc. ("Cboe") reported "access and capacity fee" revenue of $70,893,000 for 2020[41] and $80,383,000 for 2021[42]. Cboe C2 Exchange, Inc.

---

40 The Exchange has filed, and subsequently withdrew, various forms of this proposed fee change numerous times since August 2021 with each proposal containing hundreds of cost and revenue disclosures never previously disclosed by legacy exchanges in their access and market data fee filings prior to 2019.

41 According to Cboe's 2021 Form 1 Amendment, access and capacity fees represent fees assessed for the opportunity to trade, including fees for trading-related functionality. See Cboe 2021 Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2100/21000465.pdf.

42 See Cboe 2022 Form 1 Amendment, available at

("C2") reported "access and capacity fee" revenue of $19,016,000 for 2020[43] and $22,843,000 for 2021[44]. Cboe BZX Exchange, Inc. ("BZX") reported "access and capacity fee" revenue of $38,387,000 for 2020[45] and $44,800,000 for 2021[46]. Cboe EDGX Exchange, Inc. ("EDGX") reported "access and capacity fee" revenue of $26,126,000 for 2020[47] and $30,687,000 for 2021[48]. For 2021, the affiliated Cboe, C2, BZX, and EDGX (the four largest exchanges of the Cboe exchange group) reported $178,712,000 in "access and capacity fees" in 2021. NASDAQ Phlx, LLC ("NASDAQ Phlx") reported "Trade Management Services" revenue of $20,817,000 for 2019.[49] The Exchange notes it is unable to compare "access fee" revenues with NASDAQ Phlx (or other affiliated NASDAQ exchanges) because after 2019, the "Trade Management Services" line item was bundled into a much larger line item in PHLX's Form 1, simply titled "Market services."[50]

---

https://www.sec.gov/Archives/edgar/vprr/2200/22001155.pdf.

43 See C2 2021 Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2100/21000469.pdf.

44 See C2 2022 Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2200/22001156.pdf.

45 See BZX 2021 Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2100/21000465.pdf.

46 See BZX 2022 Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2200/22001152.pdf.

47 See EDGX 2021 Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2100/21000467.pdf.

48 See EDGX 2022 Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2200/22001154.pdf.

49 According to PHLX, "Trade Management Services" includes "a wide variety of alternatives for connectivity to and accessing [the PHLX] markets for a fee. These participants are charged monthly fees for connectivity and support in accordance with [PHLX's] published fee schedules." See PHLX 2020 Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2001/20012246.pdf.

50 See PHLX Form 1 Amendment, available at https://www.sec.gov/Archives/edgar/vprr/2100/21000475.pdf. The Exchange notes that this type of Form 1 accounting appears to be designed to obfuscate the true financials of such exchanges and has the effect of perpetuating fee and revenue advantages of legacy exchanges.

The much higher non-transaction fees charged by the legacy exchanges provides them with two significant competitive advantages. First, legacy exchanges are able to use their additional non-transaction revenue for investments in infrastructure, vast marketing and advertising on major media outlets,[51] new products and other innovations. Second, higher non-transaction fees provide the legacy exchanges with greater flexibility to lower their transaction fees (or use the revenue from the higher non-transaction fees to subsidize transaction fee rates), which are more immediately impactful in competition for order flow and market share, given the variable nature of this cost on member firms. The prohibition of a reasonable path forward denies the Exchange (and other non-legacy exchanges) this flexibility, eliminates the ability to remain competitive on transaction fees, and hinders the ability to compete for order flow and market share with legacy exchanges. While one could debate whether the pricing of non-transaction fees are subject to the same market forces as transaction fees, there is little doubt that subjecting one exchange to a materially different standard than that historically applied to legacy exchanges for non-transaction fees leaves that exchange at a disadvantage in its ability to compete with its pricing of transaction fees.

While the Commission has clearly noted that the Staff Guidance is merely guidance and "is not a rule, regulation or statement of the…Commission…the Commission has neither approved nor disapproved its content…",[52] this is not the reality experienced by exchanges such as MIAX Pearl. As such, non-legacy exchanges are forced to rely on an opaque cost-based justification standard. However, because the Staff Guidance is devoid of detail on what must be contained in cost-based justification, this standard is nearly impossible to meet despite repeated good-faith efforts by the Exchange to provide substantial amount of cost-related details. For example, the Exchange has attempted to increase fees using a cost-based justification numerous

---

51 See, e.g., CNBC Debuts New Set on NYSE Floor, available at https://www.cnbc.com/id/46517876.

52 See supra note 27, at note 1.

times, having submitted over six filings.[53] However, despite providing 100+ page filings describing in extensive detail its costs associated with providing the services described in the filings, Commission Staff continues to suspend such filings, with the rationale that the Exchange has not provided sufficient detail of its costs and without ever being precise about what additional data points are required. The Commission Staff appears to be interpreting the reasonableness standard set forth in Section 6(b)(4) of the Act[54] in a manner that is not possible to achieve. This essentially nullifies the cost-based approach for exchanges as a legitimate alternative as laid out in the Staff Guidance. By refusing to accept a reasonable cost-based argument to justify non-transaction fees (in addition to refusing to accept a competition-based argument as described above), or by failing to provide the detail required to achieve that standard, the Commission Staff is effectively preventing non-legacy exchanges from making any non-transaction fee changes, which benefits the legacy exchanges and is anticompetitive to the non-legacy exchanges. This does not meet the fairness standard under the Act and is discriminatory.

Because of the un-level playing field created by the Revised Review Process and Staff Guidance, the Exchange believes that the Commission Staff, at this point, should either (a) provide sufficient clarity on how its cost-based standard can be met, including a clear and

---

53 See Securities Exchange Act Release Nos. 92798 (August 27, 2021), 86 FR 49360 (September 2, 2021) (SR-PEARL-2021-33); 92644 (August 11, 2021), 86 FR 46055 (August 17, 2021) (SR-PEARL-2021-36); 93162 (September 28, 2021), 86 FR 54739 (October 4, 2021) (SR-PEARL-2021-45); 93556 (November 10, 2021), 86 FR 64235 (November 17, 2021) (SR-PEARL-2021-53); 93774 (December 14, 2021), 86 FR 71952 (December 20, 2021) (SR-PEARL-2021-57); 93894 (January 4, 2022), 87 FR 1203 (January 10, 2022) (SR-PEARL-2021-58); 94258 (February 15, 2022), 87 FR 9659 (February 22, 2022) (SR-PEARL-2022-03); 94286 (February 18, 2022), 87 FR 10860 (February 25, 2022) (SR-PEARL-2022-04); 94721 (April 14, 2022), 87 FR 23573 (April 20, 2022) (SR-PEARL-2022-11); 94722 (April 14, 2022), 87 FR 23660 (April 20, 2022) (SR-PEARL-2022-12); 94888 (May 11, 2022), 87 FR 29892 (May 17, 2022) (SR-PEARL-2022-18).

54 15 U.S.C. 78f(b)(4).

exhaustive articulation of required data and its views on acceptable margins,[55] to the extent that this is pertinent; (b) establish a framework to provide for commensurate non-transaction based fees among competing exchanges to ensure fee parity;[56] or (c) accept that certain competition-based arguments are applicable given the linkage between non-transaction fees and transaction fees, especially where non-transaction fees among exchanges are based upon disparate standards of review, lack parity, and impede fair competition. Considering the absence of any such framework or clarity, the Exchange believes that the Commission does not have a reasonable basis to deny the Exchange this change in fees, where the proposed change would result in fees meaningfully lower than comparable fees at competing exchanges and where the associated non-transaction revenue is meaningfully lower than competing exchanges.

In light of the above, disapproval of this would not meet the fairness standard under the Act, would be discriminatory and place a substantial burden on competition. The Exchange would be uniquely disadvantaged by not being able to increase its access fees to comparable levels (or lower levels than current market rates) to those of other options exchanges for connectivity. If the Commission Staff were to disapprove this proposal, that action, and not market forces, would substantially affect whether the Exchange can be successful in its competition with other options exchanges. Disapproval of this filing could also be viewed as an arbitrary and capricious decision should the Commission Staff continue to ignore its past treatment of non-transaction fee filings before implementation of the Revised Review Process

---

55 To the extent that the cost-based standard includes Commission Staff making determinations as to the appropriateness of certain profit margins, the Exchange believes that Staff should be clear as to what they determine is an appropriate profit margin.

56 In light of the arguments above regarding disparate standards of review for historical legacy non-transaction fees and current non-transaction fees for non-legacy exchanges, a fee parity alternative would be one possible way to avoid the current unfair and discriminatory effect of the Staff Guidance and Revised Review Process. See, e.g., CSA Staff Consultation Paper 21-401, Real-Time Market Data Fees, available at https://www.bcsc.bc.ca/-/media/PWS/Resources/Securities_Law/Policies/Policy2/21401_Market_Data_Fee_CSA_Staff_Consulation_Paper.pdf.

and Staff Guidance and refuse to allow such filings to be approved despite significantly enhanced arguments and cost disclosures.[57]

* * * * *

10Gb ULL Connectivity Fee Change

MIAX Pearl Options recently filed a proposal to no longer operate 10Gb connectivity to MIAX Pearl Options on a single shared network with its affiliate, MIAX. This change is an operational necessity due to ever-increasing capacity constraints and to accommodate anticipated access needs for Members and other market participants.[58] This proposal: (i) sets forth the applicable fees for the bifurcated 10Gb ULL network; (ii) removes provisions in the Fee Schedule that provide for a shared 10Gb ULL network; and (iii) specifies that market participants may continue to connect to both MIAX Pearl Options and MIAX via the 1Gb network.

MIAX Pearl Options bifurcated the MIAX Pearl Options and MIAX 10Gb ULL networks in the first quarter of 2023, which change became effective on January 23, 2023. The Exchange issued an alert on August 12, 2022 publicly announcing the planned network change and implementation plan and dates to provide market participants adequate time to prepare.[59] Upon bifurcation of the 10Gb ULL network, subscribers need to purchase separate connections to MIAX Pearl Options and MIAX at the applicable rate. The Exchange's proposed amended rate for 10Gb ULL connectivity is described below. Prior to the bifurcation of the 10Gb ULL

---

57 The Exchange's costs have clearly increased and continue to increase, particularly regarding capital expenditures, as well as employee benefits provided by third parties (e.g., healthcare and insurance). Yet, practically no fee change proposed by the Exchange to cover its ever increasing costs has been acceptable to the Commission Staff since 2021. The only other fair and reasonable alternative would be to require the numerous fee filings unquestioningly approved before the Staff Guidance and Revised Review Process to "develop a record," and to "explain their conclusions, based on that record, in a written decision that is sufficient to enable us to perform our review," and to ensure a comparable review process with the Exchange's filing.

58 See supra note 9.

59 Id.

networks, subscribers to 10Gb ULL connectivity were able to connect to both MIAX Pearl Options and MIAX at the applicable rate set forth below.

The Exchange, therefore, proposes to amend the Fee Schedule to increase the fees for Members and non-Members to access the Exchange's system networks[60] via a 10Gb ULL fiber connection and to specify that this fee is for a dedicated connection to MIAX Pearl Options and no longer provides access to MIAX. Specifically, MIAX Pearl Options proposes to amend Sections 5)a)-b) of the Fee Schedule to increase the 10Gb ULL connectivity fee for Members and non-Members from $10,000 per month to $13,500 per month ("10Gb ULL Fee").[61] The Exchange also proposes to amend the Fee Schedule to reflect the bifurcation of the 10Gb ULL network and specify that only the 1Gb network provides access to both MIAX Pearl Options and MIAX.

The Exchange proposes to make the following changes to reflect the bifurcated 10Gb ULL network for the Exchange and MIAX. First, in the Definitions section of the Fee Schedule, the Exchange proposes to amend the last sentence in the definition of "MENI" to specify that the MENI can be configured to provide network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facilities of the Exchange's affiliate, MIAX, via a single, shared 1Gb connection. Next, the Exchange proposes to amend the explanatory paragraphs below the network connectivity fee tables in Sections 5)a)-b) of the Fee Schedule to specify that, with the bifurcated 10Gb ULL network, Members (and non-

---

60 The Exchange's system networks consist of the Exchange's extranet, internal network, and external network.

61 Market participants that purchase additional 10Gb ULL connections as a result of this change will not be subject to the Exchange's Member Network Connectivity Testing and Certification Fee under Section 4)c) of the Exchange's Fee Schedule. See Section 4)c) of the Exchange's fee schedule available at https://www.miaxglobal.com/markets/us-options/miax-options/fees (providing that "Network Connectivity Testing and Certification Fees will not be assessed in situations where the Exchange initiates a mandatory change to the Exchange's system that requires testing and certification. Member Network Connectivity Testing and Certification Fees will not be assessed for testing and certification of connectivity to the Exchange's Disaster Recovery Facility.").

Members) utilizing the MENI to connect to the trading platforms, market data systems, test systems, and disaster recovery facilities of the Exchange and MIAX via a single, can only do so via a shared 1Gb connection.

The Exchange will continue to assess monthly Member and non-Member network connectivity fees for connectivity to the primary and secondary facilities in any month the Member or non-Member is credentialed to use any of the Exchange APIs or market data feeds in the production environment. The Exchange will continue to pro-rate the fees when a Member or non-Member makes a change to the connectivity (by adding or deleting connections) with such pro-rated fees based on the number of trading days that the Member or non-Member has been credentialed to utilize any of the Exchange APIs or market data feeds in the production environment through such connection, divided by the total number of trading days in such month multiplied by the applicable monthly rate.

Full Service MEO Ports – Bulk and Single

Background

The Exchange also proposes to amend Section 5)d) of the Fee Schedule to amend the calculation and amount of fees for Full Service MEO Ports. The Exchange currently offers different types of MEO Ports depending on the services required by the Member, including a Full Service MEO Port-Bulk,[62] a Full Service MEO Port-Single,[63] and a Limited Service MEO Port.[64] For one monthly price, a Member may be allocated two (2) Full-Service MEO Ports of

---

62. "Full Service MEO Port – Bulk" means an MEO port that supports all MEO input message types and binary bulk order entry. See the Definitions Section of the Fee Schedule.

63 "Full Service MEO Port – Single" means an MEO port that supports all MEO input message types and binary order entry on a single order-by-order basis, but not bulk orders. See the Definitions Section of the Fee Schedule.

64 "Limited Service MEO Port" means an MEO port that supports all MEO input message types, but does not support bulk order entry and only supports limited order types, as specified by the Exchange via Regulatory Circular. See the Definitions Section of the Fee Schedule.

either type per matching engine[65] and may request Limited Service MEO Ports for which MIAX Pearl will assess Members Limited Service MEO Port fees based on a sliding scale for the number of Limited Service MEO Ports utilized each month. The two (2) Full-Service MEO Ports that may be allocated per matching engine to a Member may consist of: (a) two (2) Full Service MEO Ports – Bulk; (b) two (2) Full Service MEO Ports – Single; or (c) one (1) Full Service MEO Port – Bulk and one (1) Full Service MEO Port – Single.

Currently, the Exchange assesses Members Full Service MEO Port Fees, either for a Full Service MEO Port - Bulk and/or for a Full Service MEO Port - Single, based upon the monthly total volume executed by a Member and its Affiliates[66] on the Exchange, across all origin types, not including Excluded Contracts[67], as compared to the Total Consolidated Volume ("TCV"),[68] in all MIAX Pearl-listed options. The Exchange adopted a tier-based fee structure based upon the volume-based tiers detailed in the definition of "Non-Transaction Fees Volume-Based Tiers" described in the Definitions section of the Fee Schedule. The Exchange assesses these and other monthly Port fees to Members in each month the market participant is credentialed to use a Port in the production environment.

Full Service MEO Port (Bulk) Fee Changes

---

65 A "Matching Engine" is a part of the Exchange's electronic system that processes options orders and trades on a symbol-by-symbol basis. See the Definitions Section of the Fee Schedule.

66 "Affiliate" means (i) an affiliate of a Member of at least 75% common ownership between the firms as reflected on each firm's Form BD, Schedule A, or (ii) the Appointed Market Maker of an Appointed EEM (or, conversely, the Appointed EEM of an Appointed Market Maker). See the Definitions Section of the Fee Schedule.

67 "Excluded Contracts" means any contracts routed to an away market for execution. See the Definitions Section of the Fee Schedule.

68 "TCV" means total consolidated volume calculated as the total national volume in those classes listed on MIAX Pearl for the month for which the fees apply, excluding consolidated volume executed during the period of time in which the Exchange experiences an Exchange System Disruption (solely in the option classes of the affected Matching Engine). See the Definitions Section of the Fee Schedule.

Current Full Service MEO Port (Bulk) Fees. The Exchange currently assesses all Members (Market Makers[69] and Electronic Exchange Members[70] ("EEMs")) monthly Full Service MEO Port – Bulk fees as follows:

(i) if its volume falls within the parameters of Tier 1 of the Non-Transaction Fees Volume-Based Tiers, or volume up to 0.30%, $3,000;

(ii) if its volume falls within the parameters of Tier 2 of the Non-Transaction Fees Volume-Based Tiers, or volume above 0.30% up to 0.60%, $4,500; and

(iii) if its volume falls within the parameters of Tier 3 of the Non-Transaction Fees Volume-Based Tiers, or volume above 0.60%, $5,000.

Proposed Full Service MEO Port (Bulk) Fees. The Exchange proposes to amend the calculation and amount of Full Service MEO Port (Bulk) fees for EEMs and Market Makers. In particular, for EEMs, the Exchange proposes to move away from the above-described volume tier-based fee structure and instead charge all EEMs that utilize Full Service MEO Ports (Bulk) a flat monthly fee of $7,500. For this flat monthly fee, EEMs will continue to be entitled to two (2) Full Service MEO Ports (Bulk) for each Matching Engine for the single monthly fee of $7,500. The Exchange now proposes to amend the calculation and amount of Full Service MEO Port (Bulk) fees for Market Makers by moving away from the above-described volume tier-based fee structure to harmonize the Full Service MEO Port (Bulk) fee structure for Market Makers with that of the Exchange's affiliates, MIAX and MIAX Emerald.[71] The Exchange

---

69 The term "Market Maker" means a Member registered with the Exchange for the purpose of making markets in options contracts traded on the Exchange and that is vested with the rights and responsibilities specified in Chapter VI of Exchange Rules. See the Definitions Section of the Fee Schedule and Exchange Rule 100.

70 The term "Electronic Exchange Member" or "EEM" means the holder of a Trading Permit who is a Member representing as agent Public Customer Orders or Non-Customer Orders on the Exchange and those non-Market Maker Members conducting proprietary trading. Electronic Exchange Members are deemed "members" under the Exchange Act. See the Definitions Section of the Fee Schedule and Exchange Rule 100.

71 See MIAX Fee Schedule, Section 5)d)ii) and MIAX Emerald Fee Schedule, Section 5)d)ii).

proposes that the amount of the monthly Full Service MEO Port (Bulk) fees for Market Makers would be based on the lesser of either the per class traded or percentage of total national average daily volume ("ADV") measurement based on classes traded by volume. The amount of monthly Market Maker Full Service MEO Port (Bulk) fee would be based upon the number of classes in which the Market Maker was registered to quote on any given day within the calendar month, or upon the class volume percentages. This change in how Full Service MEO Port (Bulk) fees are calculated is identical to how the Exchange assesses Market Makers Trading Permit fees, which is in line with how numerous exchanges charge similar membership fees.

Specifically, the Exchange proposes to adopt the following Full Service MEO Port (Bulk) fees for Market Makers: (i) $5,000 for Market Maker registrations in up to 10 option classes or up to 20% of option classes by national ADV; (ii) $7,500 for Market Maker registrations in up to 40 option classes or up to 35% of option classes by ADV; (iii) $10,000 for Market Maker registrations in up to 100 option classes or up to 50% of option classes by ADV; and (iv) $12,000 for Market Maker registrations in over 100 option classes or over 50% of option classes by ADV up to all option classes listed on MIAX Pearl. For example, if Market Maker 1 elects to quote the top 40 option classes which consist of 58% of the total national average daily volume in the prior calendar quarter, the Exchange would assess $7,500 to Market Maker 1 for the month which is the lesser of 'up to 40 classes' and 'over 50% of classes by volume up to all classes listed on MIAX Pearl'. If Market Maker 2 elects to quote the bottom 1000 option classes which consist of 10% of the total national average daily volume in the prior quarter, the Exchange would assess $5,000 to Market Maker 2 for the month which is the lesser of 'over 100 classes' and 'up to 20% of classes by volume. The Exchange notes that the proposed tiers (ranging from $5,000 to $12,000) are lower than the tiers that the Exchange's

affiliates charge for their comparable ports (ranging from $5,000 to $20,500) for similar per class tier thresholds.[72]

With the proposed changes, a Market Maker would be determined to be registered in a class if that Market Maker has been registered in one or more series in that class.[73] The Exchange will assess MIAX Pearl Options Market Makers the monthly Market Maker Full Service MEO Port (Bulk) fee based on the greatest number of classes listed on MIAX Pearl Options that the MIAX Pearl Options Market Maker registered to quote in on any given day within a calendar month. Therefore, with the proposed changes to the calculation of Market Maker Full Service MEO Port (Bulk) fees, the Exchange's Market Makers would be encouraged to quote in more series in each class they are registered in because each additional series in that class would not count against their total classes for purposes of the Full Service MEO Port (Bulk) fee tiers. The class volume percentage is based on the total national ADV in classes listed on MIAX Pearl Options in the prior calendar quarter. Newly listed option classes are excluded from the calculation of the monthly Market Maker Full Service MEO Port (Bulk) fee until the calendar quarter following their listing, at which time the newly listed option classes will be included in both the per class count and the percentage of total national ADV.

The Exchange also proposes to adopt an alternative lower Full Service MEO Port (Bulk) fee for Market Makers who fall within the 2nd, 3rd and 4th levels of the proposed Market Maker Full Service MEO Port (Bulk) fee table: (i) Market Maker registrations in up to 40 option classes or up to 35% of option classes by volume; (ii) Market Maker registrations in up to 100 option classes or up to 50% of option classes by volume; and (iii) Market Maker registrations in over 100 option classes or over 50% of option classes by volume up to all option classes listed on MIAX Pearl Options. In particular, the Exchange proposes to adopt footnote "**" following

---

72 See id.

73 Pursuant to Exchange Rule 602(a), a Member that has qualified as a Market Maker may register to make markets in individual series of options.

the Market Maker Full Service MEO Port (Bulk) fee table for these Monthly Full Service MEO Port (Bulk) tier levels. New proposed footnote "**" will provide that if the Market Maker's total monthly executed volume during the relevant month is less than 0.040% of the total monthly TCV for MIAX Pearl–listed option classes for that month, then the fee will be $6,000 instead of the fee otherwise applicable to such level.

The purpose of the alternative lower fee designated in proposed footnote "**" is to provide a lower fixed fee to those Market Makers who are willing to quote the entire Exchange market (or substantial amount of the Exchange market), as objectively measured by either number of classes assigned or national ADV, but who do not otherwise execute a significant amount of volume on the Exchange. The Exchange believes that, by offering lower fixed fees to Market Makers that execute less volume, the Exchange will retain and attract smaller-scale Market Makers, which are an integral component of the option marketplace, but have been decreasing in number in recent years, due to industry consolidation. Since these smaller-scale Market Makers utilize less Exchange capacity due to lower overall volume executed, the Exchange believes it is reasonable and equitable to offer such Market Makers a lower fixed fee. The Exchange notes that the Exchange's affiliates, MIAX and MIAX Emerald, also provide lower MIAX Express Interface ("MEI") Port fees (the comparable ports on those exchanges) for Market Makers who quote the entire MIAX and MIAX Emerald markets (or substantial amount of those markets), as objectively measured by either number of classes assigned or national ADV, but who do not otherwise execute a significant amount of volume on MIAX or MIAX Emerald.[74] The proposed changes to the Full Service MEO Port (Bulk) fees for Market Makers who fall within the 2nd, 3rd and 4th levels of the fee table are based upon a business determination of current Market Maker assignments and trading volume.

---

74 See MIAX Fee Schedule, Section 5)d)ii), note "*" and MIAX Emerald Fee Schedule, Section 5)d)ii), note "■".

Unlike other options exchanges that provide similar port functionality and charge fees on a per port basis,[75] the Exchange offers Full Service MEO Ports as a package and provides Members with the option to receive up to two Full Service MEO Ports (described above) per matching engine to which that Member connects. The Exchange currently has twelve (12) matching engines, which means Market Makers may receive up to twenty-four (24) Full Service MEO Ports for a single monthly fee, that can vary based on the lesser of either the per class traded or percentage of total national ADV measurement based on classes traded by volume, as described above. For illustrative purposes, the Exchange currently assesses a fee of $5,000 per month for Market Makers that reach the highest Full Service MEO Port (Bulk) tier, regardless of the number of Full Service MEO Ports allocated to the Market Maker. For example, assuming a Market Maker connects to all twelve (12) matching engines during a month, with two Full Service MEO Ports (Bulk) per matching engine, this results in an effective fee of $208.33 per Full Service MEO Port ($5,000 divided by 24) for the month, as compared to other

---

75 See NYSE American Options Fee Schedule, Section V.A., Port Fees (each port charged on a per matching engine basis, with NYSE American having 17 match engines). See NYSE Technology FAQ and Best Practices: Options, Section 5.1 (How many matching engines are used by each exchange?) (September 2020) (providing a link to an Excel file detailing the number of matching engines per options exchange); NYSE Arca Options Fee Schedule, Port Fees (each port charged on a per matching engine basis, NYSE Arca having 19 match engines); and NYSE Technology FAQ and Best Practices: Options, Section 5.1 (How many matching engines are used by each exchange?) (September 2020) (providing a link to an Excel file detailing the number of matching engines per options exchange). See NASDAQ Fee Schedule, NASDAQ Options 7 Pricing Schedule, Section 3, Nasdaq Options Market – Ports and Other Services (each port charged on a per matching engine basis, with Nasdaq having multiple matching engines). See NASDAQ Specialized Quote Interface (SQF) Specification, Version 6.5b (updated February 13, 2020), Section 2, Architecture, available at https://www.nasdaq.com/docs/2020/02/18/Specialized-Quote-Interface-SQI-6.5b.pdf (the "NASDAQ SQF Interface Specification"). The NASDAQ SQF Interface Specification also provides that NASDAQ's affiliates, NASDAQ Phlx and NASDAQ BX, Inc. ("BX"), have trading infrastructures that may consist of multiple matching engines with each matching engine trading only a range of option classes. Further, the NASDAQ SQF Interface Specification provides that the SQF infrastructure is such that the firms connect to one or more servers residing directly on the matching engine infrastructure. Since there may be multiple matching engines, firms will need to connect to each engine's infrastructure in order to establish the ability to quote the symbols handled by that engine.

exchanges that charge over $1,000 per port and require multiple ports to connect to all of their matching engines.[76] This fee had been unchanged since the Exchange adopted Full Service MEO Port fees in 2018.[77] The Exchange proposes to increase Full Service MEO Port fees, with the highest monthly fee of $12,000 for the Full Service MEO Ports (Bulk). Market Makers will continue to receive two (2) Full Service MEO Ports to each matching engine to which they connect for the single flat monthly fee. Assuming a Market Maker connects to all twelve (12) matching engines during the month, with two Full Service MEO Ports per matching engine, this would result in an effective fee of $500 per Full Service MEO Port ($12,000 divided by 24).

Full Service MEO Ports (Bulk)				
	Number of Match Engines	Total Number of Ports for Market Maker to Connect to all Match Engines	Total Fee (Monthly)	Effective Per Port Fee
Pricing Based on Market Maker Being Charged the Highest Tier (Current)	12	24	$5,000	$208.33
Pricing Based on Market Maker Being Charged the Highest Tier (as proposed)	12	24	$12,000	$500

Full Service MEO Port (Single) Fee Changes

Current Full Service MEO Port (Single) Fees. The Exchange currently assesses all Members (Market Makers and EEMs) monthly Full Service MEO Port (Single) fees as follows:

(i) if its volume falls within the parameters of Tier 1 of the Non-Transaction Fees Volume-Based Tiers, or volume up to 0.30%, $2,000;

---

76 Id. See also infra notes 101 to 108 and accompanying text.

77 See Securities Exchange Act Release No. 82867 (March 13, 2018), 83 FR 12044 (March 19, 2018) (SR-PEARL-2018-07).

(ii) if its volume falls within the parameters of Tier 2 of the Non-Transaction Fees Volume-Based Tiers, or volume above 0.30% up to 0.60%, $3,375; and

(iii) if its volume falls within the parameters of Tier 3 of the Non-Transaction Fees Volume-Based Tiers, or volume above 0.60%, $3,750.

Proposed Full Service MEO Port (Single) Fees. The Exchange proposes to amend the calculation and amount of Full Service MEO Port (Single) fees for EEMs and Market Makers. In particular, the Exchange proposes to move away from the above-described volume tier-based fee structure and instead charge all Members that utilize Full Service MEO Ports (Single) a flat monthly fee of $4,000. For this flat monthly fee, all Members will continue to be entitled to two (2) Full Service MEO Ports (Single) for each Matching Engine for the single monthly fee of $4,000.

The Exchange offers various types of ports with differing prices because each port accomplishes different tasks, are suited to different types of Members, and consume varying capacity amounts of the network. For instance, MEO ports allow for a higher throughput and can handle much higher quote/order rates than FIX ports. Members that are Market Makers or high frequency trading firms utilize these ports (typically coupled with 10Gb ULL connectivity) because they transact in significantly higher amounts of messages being sent to and from the Exchange, versus FIX port users, who are traditionally customers sending only orders to the Exchange (typically coupled with 1Gb connectivity). The different types of ports cater to the different types of Exchange Memberships and different capabilities of the various Exchange Members. Certain Members need ports and connections that can handle using far more of the network's capacity for message throughput, risk protections, and the amount of information that the System has to assess. Those Members account for the vast majority of network capacity utilization and volume executed on the Exchange, as discussed throughout. For example, three (3) Members account for 64% of all 10Gb ULL connections and Full Service MEO Ports purchased.

The Exchange proposes to increase its monthly Full Service MEO Port fees since it has not done so since the fees were adopted in 2018,[78] which are designed to recover a portion of the costs associated with directly accessing the Exchange. As described above, the Exchange's affiliates, MIAX and MIAX Emerald, also charge fees for their high throughput, low latency ports in a similar fashion as the Exchange proposes to charge for its MEO Ports – generally, the more active user the Member (i.e., the greater number / greater national ADV of classes assigned to quote on MIAX and MIAX Emerald), the higher the MEI Port fee.[79] This concept is, therefore, not new or novel.

Implementation

The proposed fee changes are immediately effective.

2. Statutory Basis

The Exchange believes that the proposed fees are consistent with Section 6(b) of the Act[80] in general, and furthers the objectives of Section 6(b)(4) of the Act[81] in particular, in that it provides for the equitable allocation of reasonable dues, fees and other charges among Members and other persons using any facility or system which the Exchange operates or controls. The Exchange also believes the proposed fees further the objectives of Section 6(b)(5) of the Act[82] in that they are designed to promote just and equitable principles of trade, remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general protect investors and the public interest and are not designed to permit unfair discrimination between customers, issuers, brokers and dealers.

The Exchange believes that the information provided to justify the proposed fees meets or exceeds the amount of detail required in respect of proposed fee changes under the Revised

---

78 See id.

79 See MIAX Fee Schedule, Section 5)d)ii); MIAX Emerald Fee Schedule, Section 5)d)ii).

80 15 U.S.C. 78f(b).

81 15 U.S.C. 78f(b)(4).

82 15 U.S.C. 78f(b)(5).

Review Process and as set forth in recent Staff Guidance. Based on both the BOX Order[83] and the Staff Guidance[84], the Exchange believes that the proposed fees are consistent with the Act because they are: (i) reasonable, equitably allocated, not unfairly discriminatory, and not an undue burden on competition; (ii) comply with the BOX Order and the Staff Guidance; and (iii) supported by evidence (including comprehensive revenue and cost data and analysis) that they are fair and reasonable and will not result in excessive pricing or supra-competitive profit.

The Exchange believes that exchanges, in setting fees of all types, should meet high standards of transparency to demonstrate why each new fee or fee amendment meets the requirements of the Act that fees be reasonable, equitably allocated, not unfairly discriminatory, and not create an undue burden on competition among market participants. The Exchange believes this high standard is especially important when an exchange imposes various fees for market participants to access an exchange's marketplace.

In the Staff Guidance, the Commission Staff states that, "[a]s an initial step in assessing the reasonableness of a fee, staff considers whether the fee is constrained by significant competitive forces."[85] The Staff Guidance further states that, "… even where an SRO cannot demonstrate, or does not assert, that significant competitive forces constrain the fee at issue, a cost-based discussion may be an alternative basis upon which to show consistency with the Exchange Act."[86] In the Staff Guidance, the Commission Staff further states that, "[i]f an SRO seeks to support its claims that a proposed fee is fair and reasonable because it will permit recovery of the SRO's costs, . . . , specific information, including quantitative information, should be provided to support that argument."[87]

---

83 See supra note 26.

84 See supra note 27.

85 Id.

86 Id.

87 Id.

The proposed fees are reasonable because they promote parity among exchange pricing for access, which promotes competition, including in the Exchanges' ability to competitively price transaction fees, invest in infrastructure, new products and other innovations, all while allowing the Exchange to recover its costs to provide dedicated access via 10Gb ULL connectivity (driven by the bifurcation of the 10Gb ULL network) and Full Service MEO Ports. As discussed above, the Revised Review Process and Staff Guidance have created an uneven playing field between legacy and non-legacy exchanges by severely restricting non-legacy exchanges from being able to increase non-transaction relates fees to provide them with additional necessary revenue to better compete with legacy exchanges, which largely set fees prior to the Revised Review Process. The much higher non-transaction fees charged by the legacy exchanges provides them with two significant competitive advantages: (i) additional non-transaction revenue that may be used to fund areas other than the non-transaction service related to the fee, such as investments in infrastructure, advertising, new products and other innovations; and (ii) greater flexibility to lower their transaction fees by using the revenue from the higher non-transaction fees to subsidize transaction fee rates. The latter is more immediately impactful in competition for order flow and market share, given the variable nature of this cost on Member firms. The absence of a reasonable path forward to increase non-transaction fees to comparable (or lower rates) limits the Exchange's flexibility to, among other things, make additional investments in infrastructure and advertising, diminishes the ability to remain competitive on transaction fees, and hinders the ability to compete for order flow and market share. Again, while one could debate whether the pricing of non-transaction fees are subject to the same market forces as transaction fees, there is little doubt that subjecting one exchange to a materially different standard than that applied to other exchanges for non-transaction fees leaves that exchange at a disadvantage in its ability to compete with its pricing of transaction fees.

The Proposed Fees Ensure Parity Among Exchange Access Fees, Which Promotes Competition

The Exchange commenced operations in February 2017[88] and adopted its initial fee schedule, with 10Gb ULL connectivity fees set at $8,500 (the Exchange originally had a non-ULL 10Gb connectivity option, which it has since removed) and a fee waiver for all Full Service MEO Port fees.[89] As a new exchange entrant, the Exchange chose to offer Full Service MEO Ports free of charge to encourage market participants to trade on the Exchange and experience, among things, the quality of the Exchange's technology and trading functionality. This practice is not uncommon. New exchanges often do not charge fees or charge lower fees for certain services such as memberships/trading permits to attract order flow to an exchange, and later amend their fees to reflect the true value of those services, absorbing all costs to provide those services in the meantime. Allowing new exchange entrants time to build and sustain market share through various pricing incentives before increasing non-transaction fees encourages market entry and fee parity, which promotes competition among exchanges. It also enables new exchanges to mature their markets and allow market participants to trade on the new exchanges without fees serving as a potential barrier to attracting memberships and order flow.[90]

---

88 See MIAX PEARL Successfully Launches Trading Operations, dated February 6, 2017, available at https://www.miaxglobal.com/sites/default/files/alert-files/MIAX_Press_Release_02062017.pdf.

89 See Securities Exchange Act Release No. 80061 (February 17, 2017), 82 FR 11676 (February 24, 2017) (SR-PEARL-2017-10).

90 See Securities Exchange Act Release No. 94894 (May 11, 2022), 87 FR 29987 (May 17, 2022) (SR-BOX-2022-17) (stating, "[t]he Exchange established this lower (when compared to other options exchanges in the industry) Participant Fee in order to encourage market participants to become Participants of BOX…"). See also Securities Exchange Act Release No. 90076 (October 2, 2020), 85 FR 63620 (October 8, 2020) (SR-MEMX-2020-10) (proposing to adopt the initial fee schedule and stating that "[u]nder the initial proposed Fee Schedule, the Exchange proposes to make clear that it does not charge any fees for membership, market data products, physical connectivity or application sessions."). MEMX's market share has increased and recently proposed to adopt numerous non-transaction fees, including fees for membership, market data, and connectivity. See Securities Exchange Act Release Nos. 93927 (January 7, 2022), 87 FR 2191 (January 13, 2022) (SR-MEMX-2021-19) (proposing to adopt membership fees); 96430 (December 1, 2022), 87 FR 75083 (December 7, 2022) (SR-MEMX-2022-32) and 95936 (September 27, 2022), 87 FR 59845 (October 3, 2022) (SR-MEMX-

Later in 2018, as the Exchange's market share increased,[91] the Exchange adopted nominal fees for Full Service MEO Ports.[92] The Exchange last increased the fees for its 10Gb ULL fiber connections from $9,300 to $10,000 per month on January 1, 2021.[93] The Exchange balanced business and competitive concerns with the need to financially compete with the larger incumbent exchanges that charge higher fees for similar connectivity and use that revenue to invest in their technology and other service offerings.

The proposed changes to the Fee Schedule are reasonable in several respects. As a threshold matter, the Exchange is subject to significant competitive forces, which constrains its pricing determinations for transaction fees as well as non-transaction fees. The fact that the market for order flow is competitive has long been recognized by the courts. In NetCoalition v. Securities and Exchange Commission, the D.C. Circuit stated, "[n]o one disputes that competition for order flow is 'fierce.' … As the SEC explained, '[i]n the U.S. national market system, buyers and sellers of securities, and the broker-dealers that act as their order-routing agents, have a wide range of choices of where to route orders for execution'; [and] 'no exchange can afford to take its market share percentages for granted' because 'no exchange possesses a monopoly, regulatory or otherwise, in the execution of order flow from broker dealers'…."[94]

2022-26) (proposing to adopt fees for connectivity). See also, e.g., Securities Exchange Act Release No. 88211 (February 14, 2020), 85 FR 9847 (February 20, 2020) (SR-NYSENAT-2020-05), available at https://www.nyse.com/publicdocs/nyse/markets/nyse-national/rule-filings/filings/2020/SR-NYSENat-2020-05.pdf (initiating market data fees for the NYSE National exchange after initially setting such fees at zero).

91 The Exchange experienced a monthly average trading volume of 3.94% for the month of March 2018. See the "Market Share" section of the Exchange's website, available at www.miaxglobal.com.

92 See Securities Exchange Act Release No. 82867 (March 13, 2018), 83 FR 12044 (March 19, 2018) (SR-PEARL-2018-07).

93 See Securities Exchange Act Release No. 90981 (January 25, 2021), 86 FR 7582 (January 29, 2021) (SR-PEARL-2021-01).

94 See NetCoalition, 615 F.3d at 539 (D.C. Cir. 2010) (quoting Securities Exchange Act Release No. 59039 (December 2, 2008), 73 FR 74770, 74782-83 (December 9, 2008) (SR-NYSEArca-2006-21)).

The Commission and the courts have repeatedly expressed their preference for competition over regulatory intervention to determine 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."[95]

Congress directed the Commission to "rely on 'competition, whenever possible, in meeting its regulatory responsibilities for overseeing the SROs and the national market system.'"[96] As a result, and as evidenced above, the Commission has historically relied on competitive forces to determine whether a fee proposal is equitable, fair, reasonable, and not unreasonably or unfairly discriminatory. "If competitive forces are operative, the self-interest of the exchanges themselves will work powerfully to constrain unreasonable or unfair behavior."[97] 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."[98] In the Revised Review Process and Staff Guidance, Commission Staff indicated that they would look at factors beyond the competitive environment, such as cost, only if a "proposal lacks persuasive evidence that the proposed fee is constrained by significant competitive forces."[99]

---

95 See Securities Exchange Act Release No. 51808 (June 9, 2005), 70 FR 37496, 37499 (June 29, 2005) ("Regulation NMS Adopting Release").

96 See NetCoalition, 615 F.3d at 534-35; see also H.R. Rep. No. 94-229 at 92 (1975) ("[I]t is the intent of the conferees that the national market system evolve through the interplay of competitive forces as unnecessary regulatory restrictions are removed.").

97 See Securities Exchange Act Release No. 59039 (December 2, 2008), 73 Fed. Reg. 74,770 (December 9, 2008) (SR-NYSEArca-2006-21).

98 Id.

99 See Staff Guidance, supra note 27.

The Exchange believes the competing exchanges' 10Gb connectivity and port fees are useful examples of alternative approaches to providing and charging for access and demonstrating how such fees are competitively set and constrained. To that end, the Exchange believes the proposed fees are competitive and reasonable because the proposed fees are similar to or less than fees charged for similar connectivity and port access provided by other options exchanges with comparable market shares. As such, the Exchange believes that denying its ability to institute fees that allow the Exchange to recoup its costs with a reasonable margin in a manner that is closer to parity with legacy exchanges, in effect, impedes its ability to compete, including in its pricing of transaction fees and ability to invest in competitive infrastructure and other offerings.

The following table shows how the Exchange's proposed fees remain similar to or less than fees charged for similar connectivity and port access provided by other options exchanges with similar market share. Each of the connectivity and port rates in place at competing options exchanges were filed with the Commission for immediate effectiveness and remain in place today.

Exchange	**Type of Connection or Port**	**Monthly Fee (per connection or per port)**
MIAX Pearl Options (as proposed) (equity options market share of 7.05% for the month of May 2023)[a]	10Gb ULL connection	$13,500
	Full Service MEO Port (Bulk) for Market Makers	Lesser of either the per class basis or percentage of total national ADV by the Market Maker, as follows: $5,000 – up to 10 classes or up to 20% of classes by volume $7,500**– up to 40 classes or up to 35% of classes by volume $10,000**– up to 100 classes or up to 50% of classes by volume $12,000**– over 100 classes or over 50% of all classes by volume up to all classes (or

		$500 per port per matching engine) **A lower rate of $6,000 will apply to these tiers if the Market Maker's total monthly executed volume is less than 0.040% of total monthly TCV for MIAX Pearl options
	Full Service MEO Port (Bulk) for EEMs	$7,500 (or $312.50 per port per matching engine)
	Full Service MEO Port (Single) for Market Makers and EEMs	$4,000 (or $166.66 per port per matching engine)
NASDAQ[b] (equity options market share of 6.59% for the month of May 2023)[c]	10Gb Ultra fiber connection	$15,000 per connection
	SQF Port[d]	1-5 ports: $1,500 per port 6-20 ports: $1,000 per port 21 or more ports: $500 per port
NASDAQ ISE LLC ("ISE")[e] (equity options market share of 6.18% for the month of May 2023)[f]	10Gb Ultra fiber connection	$15,000 per connection
	SQF Port	$1,100 per port
NYSE American LLC ("NYSE American")[g] (equity options market share of 7.34% for the month of May 2023)[h]	10Gb LX LCN connection	$22,000 per connection
	Order/Quote Entry Port	1-40 ports: $450 per port 41 or more ports: $150 per port
NASDAQ GEMX, LLC ("GEMX")[i] (equity options market share of 2.00% for the month of May 2023)[j]	10Gb Ultra connection	$15,000 per connection
	SQF Port	$1,250 per port

a. See supra note 91.
b. See NASDAQ Pricing Schedule, Options 7, Section 3, Ports and Other Services and NASDAQ Rules, General 8: Connectivity, Section 1. Co-Location Services.
c. See supra note 91.
d. Similar to the MIAX Pearl Options' MEO Ports, SQF ports are primarily utilized by Market Makers.
e. See ISE Pricing Schedule, Options 7, Section 7, Connectivity Fees and ISE Rules, General 8: Connectivity.
f. See supra note 91.

g. See NYSE American Options Fee Schedule, Section V.A. Port Fees and Section V.B. Co-Location Fees.
h. See supra note 91.
i. See GEMX Pricing Schedule, Options 7, Section 6, Connectivity Fees and GEMX Rules, General 8: Connectivity.
j. See supra note 91.

The Exchange acknowledges that, without additional contextual information, the above table may lead someone to believe that the Exchange's proposed fees for Full Service MEO Ports is higher than other exchanges when in fact, that is not true. The Exchange provides each Member or non-Member access to two (2) ports on all twelve (12) matching engines for a single fee and a vast majority choose to connect to all twelve (12) matching engines and utilize both ports for a total of 24 ports. Other exchanges charge on a per port basis and require firms to connect to multiple matching engines, thereby multiplying the cost to access their full market.[100] On the Exchange, this is not the case. The Exchange provides each Member or non-Member access, but does not require they connect to, all twelve (12) matching engines.

There is no requirement, regulatory or otherwise, that any broker-dealer connect to and access any (or all of) the available options exchanges. Market participants may choose to become a member of one or more options exchanges based on the market participant's assessment of the business opportunity relative to the costs of the Exchange. With this, there is elasticity of demand for exchange membership. As an example, one Market Maker terminated their MIAX Pearl Options membership effective January 1, 2023 as a direct result of the

---

100 See Specialized Quote Interface Specification, Nasdaq PHLX, Nasdaq Options Market, Nasdaq BX Options, Version 6.5a, Section 2, Architecture (revised August 16, 2019), available at http://www.nasdaqtrader.com/content/technicalsupport/specifications/TradingProducts/SQF6.5a-2019-Aug.pdf. The Exchange notes that it is unclear whether the NASDAQ exchanges include connectivity to each matching engine for the single fee or charge per connection, per matching engine. See also NYSE Technology FAQ and Best Practices: Options, Section 5.1 (How many matching engines are used by each exchange?) (September 2020). The Exchange notes that NYSE provides a link to an Excel file detailing the number of matching engines per options exchange, with Arca and Amex having 19 and 17 matching engines, respectively.

proposed connectivity and port fee changes proposed by MIAX Pearl Options.

It is not a requirement for market participants to become members of all options exchanges; in fact, certain market participants conduct an options business as a member of only one options market.[101] A very small number of market participants choose to become a member of all sixteen options exchanges. Most firms that actively trade on options markets are not currently Members of the Exchange and do not purchase connectivity or port services at the Exchange. Connectivity and ports are only available to Members or service bureaus, and only a Member may utilize a port.[102]

One other exchange recently noted in a proposal to amend their own trading permit fees that of the 62 market making firms that are registered as Market Makers across Cboe, MIAX, and BOX, 42 firms access only one of the three exchanges.[103] The Exchange and its affiliates, MIAX and MIAX Emerald, have a total of 47 members. Of those 47 total members, 35 are

---

101 BOX recently adopted an electronic market maker trading permit fee. See Securities Exchange Release No. 94894 (May 11, 2022), 87 FR 29987 (May 17, 2022) (SR-BOX-2022-17). In that proposal, BOX stated that, "… it is not aware of any reason why Market Makers could not simply drop their access to an exchange (or not initially access an exchange) if an exchange were to establish prices for its non-transaction fees that, in the determination of such Market Maker, did not make business or economic sense for such Market Maker to access such exchange. [BOX] again notes that no market makers are required by rule, regulation, or competitive forces to be a Market Maker on [BOX]." Also in 2022, MEMX established a monthly membership fee. See Securities Exchange Act Release No. 93927 (January 7, 2022), 87 FR 2191 (January 13, 2022) (SR-MEMX-2021-19). In that proposal, MEMX reasoned that that there is value in becoming a member of the exchange and stated that it believed that the proposed membership fee "is not unfairly discriminatory because no broker-dealer is required to become a member of the Exchange" and that "neither the trade-through requirements under Regulation NMS nor broker-dealers' best execution obligations require a broker-dealer to become a member of every exchange."

102 Service Bureaus may obtain ports on behalf of Members.

103 See Securities Exchange Act Release No. 94894 (May 11, 2022), 87 FR 29987 (May 17, 2022) (SR-BOX-2022-17) (Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Fee Schedule on the BOX Options Market LLC Facility To Adopt Electronic Market Maker Trading Permit Fees). The Exchange believes that BOX's observation demonstrates that market making firms can, and do, select which exchanges they wish to access, and, accordingly, options exchanges must take competitive considerations into account when setting fees for such access.

members of all three affiliated exchanges, four are members of only two (2) affiliated exchanges, and eight (8) are members of only one affiliated exchange. The Exchange also notes that no firm is a Member of the Exchange only. The above data evidences that a broker-dealer need not have direct connectivity to all options exchanges, let alone the Exchange and its two affiliates, and broker-dealers may elect to do so based on their own business decisions and need to directly access each exchange's liquidity pool.

Not only is there not an actual regulatory requirement to connect to every options exchange, the Exchange believes there is also no "de facto" or practical requirement as well, as further evidenced by the broker-dealer membership analysis of the options exchanges discussed above. As noted above, this is evidenced by the fact that one Market Maker terminated their MIAX Pearl Options membership effective January 1, 2023 as a direct result of the proposed connectivity and port fee changes on MIAX Pearl Options. Indeed, broker-dealers choose if and how to access a particular exchange and because it is a choice, the Exchange must set reasonable pricing, otherwise prospective members would not connect and existing members would disconnect from the Exchange. The decision to become a member of an exchange, particularly for registered market makers, is complex, and not solely based on the non-transactional costs assessed by an exchange. As noted herein, specific factors include, but are not limited to: (i) an exchange's available liquidity in options series; (ii) trading functionality offered on a particular market; (iii) product offerings; (iv) customer service on an exchange; and (v) transactional pricing. Becoming a member of the exchange does not "lock" a potential member into a market or diminish the overall competition for exchange services.

In lieu of becoming a member at each options exchange, a market participant may join one exchange and elect to have their orders routed in the event that a better price is available on an away market. Nothing in the Order Protection Rule requires a firm to become a Member at – or establish connectivity to – the Exchange.[104] If the Exchange is not at the national best

---

104 See Options Order Protection and Locked/Crossed Market Plan (August 14, 2009),

bid or offer ("NBBO")[105], the Exchange will route an order to any away market that is at the NBBO to ensure that the order was executed at a superior price and prevent a trade-through.[106]

With respect to the submission of orders, Members may also choose not to purchase any connection from the Exchange, and instead rely on the port of a third party to submit an order. For example, a third-party broker-dealer Member of the Exchange may be utilized by a retail investor to submit orders into an exchange. An institutional investor may utilize a broker-dealer, a service bureau,[107] or request sponsored access[108] through a member of an exchange in order to submit a trade directly to an options exchange.[109] A market participant may either pay the costs associated with becoming a member of an exchange or, in the alternative, a market participant may elect to pay commissions to a broker-dealer, pay fees to a service bureau to submit trades, or pay a member to sponsor the market participant in order to submit trades directly to an exchange.

Non-Member third-parties, such as service bureaus and extranets, resell the Exchange's connectivity. This indirect connectivity is another viable alternative for market participants to trade on the Exchange without connecting directly to the Exchange (and thus not pay the Exchange's connectivity fees), which alternative is already being used by non-Members and

---

available at https://www.theocc.com/getmedia/7fc629d9-4e54-4b99-9f11-c0e4db1a2266/options_order_protection_plan.pdf.

105 See Exchange Rule 100.

106 Members may elect to not route their orders by utilizing the Do Not Route order type. See Exchange Rule 516(g).

107 Service Bureaus provide access to market participants to submit and execute orders on an exchange. On the Exchange, a Service Bureau may be a Member. Some Members utilize a Service Bureau for connectivity and that Service Bureau may not be a Member. Some market participants utilize a Service Bureau who is a Member to submit orders.

108 Sponsored Access is an arrangement whereby a Member permits its customers to enter orders into an exchange's system that bypass the Member's trading system and are routed directly to the Exchange, including routing through a service bureau or other third-party technology provider.

109 This may include utilizing a floor broker and submitting the trade to one of the five options trading floors.

further constrains the price that the Exchange is able to charge for connectivity and other access fees to its market. The Exchange notes that it could, but chooses not to, preclude market participants from reselling its connectivity. Unlike other exchanges, the Exchange also does not currently assess fees on third-party resellers on a per customer basis (i.e., fees based on the number of firms that connect to the Exchange indirectly via the third-party).[110] Indeed, the Exchange does not receive any connectivity revenue when connectivity is resold by a third-party, which often is resold to multiple customers, some of whom are agency broker-dealers that have numerous customers of their own.[111] Particularly, in the event that a market participant views the Exchange's direct connectivity and access fees as more or less attractive than competing markets, that market participant can choose to connect to the Exchange indirectly or may choose not to connect to the Exchange and connect instead to one or more of the other 15 options markets. Accordingly, the Exchange believes that the proposed fees are fair and reasonable and constrained by competitive forces.

The Exchange is obligated to regulate its Members and secure access to its environment. In order to properly regulate its Members and secure the trading environment, the Exchange takes measures to ensure access is monitored and maintained with various controls. Connectivity and ports are methods utilized by the Exchange to grant Members secure access to communicate with the Exchange and exercise trading rights. When a market participant elects to be a Member, and is approved for membership by the Exchange, the Member is granted trading rights to enter orders and/or quotes into Exchange through secure connections.

---

110 See, e.g., Nasdaq Price List – U.S. Direct Connection and Extranet Fees, available at, US Direct-Extranet Connection (nasdaqtrader.com); and Securities Exchange Act Release Nos. 74077 (January 16, 2022), 80 FR 3683 (January 23, 2022) (SR-NASDAQ-2015-002); and 82037 (November 8, 2022), 82 FR 52953 (November 15, 2022) (SR-NASDAQ-2017-114).

111 The Exchange notes that resellers, such as SFTI, are not required to publicize, let alone justify or file with the Commission their fees, and as such could charge the market participant any fees it deems appropriate (including connectivity fees higher than the Exchange's connectivity fees), even if such fees would otherwise be considered potentially unreasonable or uncompetitive fees.

Again, there is no legal or regulatory requirement that a market participant become a Member of the Exchange. This is again evidenced by the fact that one MIAX Pearl Options Market Maker terminated their MIAX Pearl Options membership effective January 1, 2023 as a direct result of the proposed connectivity and port fee changes on MIAX Pearl Options. If a market participant chooses to become a Member, they may then choose to purchase connectivity beyond the one connection that is necessary to quote or submit orders on the Exchange. Members may freely choose to rely on one or many connections, depending on their business model.

Bifurcation of 10Gb ULL Connectivity and Related Fees

The Exchange began to operate on a single shared network with MIAX when MIAX Pearl Options commenced operations as a national securities exchange on February 7, 2017.[112] The Exchange and MIAX operated on a single shared network to provide Members with a single convenient set of access points for both exchanges. Both the Exchange and MIAX offer two methods of connectivity, 1Gb and 10Gb ULL connections. The 1Gb connection services are supported by a discrete set of switches providing 1Gb access ports to Members. The 10Gb ULL connection services are supported by a second and mutually exclusive set of switches providing 10Gb ULL access ports to Members. Previously, both the 1Gb and 10Gb ULL shared extranet ports allowed Members to use one connection to access both exchanges, namely their trading platforms, market data systems, test systems, and disaster recovery facilities.

The Exchange stresses that bifurcating the 10Gb ULL connectivity between the Exchange and MIAX was not designed with the objective to generate an overall increase in access fee revenue. Rather, the proposed change was necessitated by 10Gb ULL connectivity

---

112 See Securities Exchange Act Release No. 80061 (February 17, 2017), 82 FR 11676 (February 24, 2017) (establishing MIAX Pearl Options Fee Schedule and establishing that the MENI can also be configured to provide network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facility of the MIAX Pearl Options' affiliate, MIAX, via a single, shared connection).

experiencing a significant decrease in port availability mostly driven by connectivity demands of latency sensitive Members that seek to maintain multiple 10Gb ULL connections on every switch in the network. Operating two separate national securities exchanges on a single shared network provided certain benefits, such as streamlined connectivity to multiple exchanges, and simplified exchange infrastructure. However, doing so was no longer sustainable due to ever-increasing capacity constraints and current system limitations. The network is not an unlimited resource. As described more fully in the proposal to bifurcate the 10Gb ULL network,[113] the connectivity needs of Members and market participants has increased every year since the launch of MIAX Pearl Options and the operations of the Exchange and MIAX on a single shared 10Gb ULL network is no longer feasible. This required constant System expansion to meet Member demand for additional ports and 10Gb ULL connections has resulted in limited available System headroom, which eventually became operationally problematic for both the Exchange and its customers.

As stated above, the shared network is not an unlimited resource and its expansion was constrained by MIAX's and MIAX Pearl Options' ability to provide fair and equitable access to all market participants of both markets. Due to the ever-increasing connectivity demands, the Exchange found it necessary to bifurcate 10Gb ULL connectivity to the Exchange's and MIAX's Systems and networks to be able to continue to meet ongoing and future 10Gb ULL connectivity and access demands.[114]

Unlike the switches that provide 1Gb connectivity, the availability for additional 10Gb ULL connections on each switch had significantly decreased. This was mostly driven by the connectivity demands of latency sensitive Members (e.g., Market Makers and liquidity

---

113 See Securities Exchange Act Release Nos. 96553 (December 20, 2022), 87 FR 79379 (December 27, 2022) (SR-PEARL-2022-60); 96545 (December 20, 2022) 87 FR 79393 (December 27, 2022) (SR-MIAX-2022-48).

114 Currently, the Exchange maintains sufficient headroom to meet ongoing and future requests for 1Gb connectivity. Therefore, the Exchange did not propose to alter 1Gb connectivity and continues to provide 1Gb connectivity over a shared network.

removers) that sought to maintain connectivity across multiple 10Gb ULL switches. Based on the Exchange's experience, such Members did not typically use a shared 10Gb ULL connection to reach both the Exchange and MIAX due to related latency concerns. Instead, those Members maintain dedicated separate 10Gb ULL connections for the Exchange and separate dedicated 10Gb ULL connections for MIAX. This resulted in a much higher 10Gb ULL usage per switch by those Members on the shared 10Gb ULL network than would otherwise be needed if the Exchange and MIAX had their own dedicated 10Gb ULL networks. Separation of the Exchange and MIAX 10Gb ULL networks naturally lends itself to reduced 10Gb ULL port consumption on each switch and, therefore, increased 10Gb ULL port availability for current Members and new Members.

Prior to bifurcating the 10Gb ULL network, the Exchange and MIAX continued to add switches to meet ongoing demand for 10Gb ULL connectivity. That was no longer sustainable because simply adding additional switches to expand the current shared 10Gb ULL network would not adequately alleviate the issue of limited available port connectivity. While it would have resulted in a gain in overall port availability, the existing switches on the shared 10Gb ULL network in use would have continued to suffer from lack of port headroom given many latency sensitive Members' needs for a presence on each switch to reach both the Exchange and MIAX. This was because those latency sensitive Members sought to have a presence on each switch to maximize the probability of experiencing the best network performance. Those Members routinely decide to rebalance orders and/or messages over their various connections to ensure each connection is operating with maximum efficiency. Simply adding switches to the extranet would not have resolved the port availability needs on the shared 10Gb ULL network since many of the latency sensitive Members were unwilling to relocate their connections to a new switch due to the potential detrimental performance impact. As such, the impact of adding new switches and rebalancing ports would not have been effective or responsive to customer needs. The Exchange has found that ongoing and continued rebalancing once additional

switches are added has had, and would have continued to have had, a diminishing return on increasing available 10Gb ULL connectivity.

Based on its experience and expertise, the Exchange found the most practical way to increase connectivity availability on its switches was to bifurcate the existing 10Gb ULL networks for the Exchange and MIAX by migrating the exchanges' connections from the shared network onto their own set of switches. Such changes accordingly necessitated a review of the Exchange's previous 10Gb ULL connectivity fees and related costs. The proposed fees necessary to allow the Exchange to cover ongoing costs related to providing and maintaining such connectivity, described more fully below. The ever increasing connectivity demands that necessitated this change further support that the proposed fees are reasonable because this demand reflects that Members and non-Members believe they are getting value from the 10Gb ULL connections they purchase.

The Exchange announced on August 12, 2022 the planned network change and January 23, 2023 implementation date to provide market participants adequate time to prepare.[115] Since August 12, 2022, the Exchange has worked with current 10Gb ULL subscribers to address their connectivity needs ahead of the January 23, 2023 date. Based on those interactions and subscriber feedback, the Exchange experienced a minimal net increase of six (6) overall 10Gb ULL connectivity subscriptions across MIAX Pearl Options and MIAX. This immaterial increase in overall connections reflects a minimal fee impact for all types of subscribers and reflects that subscribers elected to reallocate existing 10Gb ULL connectivity directly to the Exchange or MIAX, or chose to decrease or cease connectivity as a result of the change.

Should the Commission Staff disapprove such fees, it would effectively dictate how an exchange manages its technology and would hamper the Exchange's ability to continue to invest in and fund access services in a manner that allows it to meet existing and anticipated

---

115 See supra note 9.

access demands of market participants. Disapproval could also have the adverse effect of discouraging an exchange from optimizing its operations and deploying innovative technology to the benefit of market participants if it believes the Commission would later prevent that exchange from covering its costs and monetizing its operational enhancements, thus adversely impacting competition. Also, as noted above, the economic consequences of not being able to better establish fee parity with other exchanges for non-transaction fees hampers the Exchange's ability to compete on transaction fees.

Cost Analysis

In general, the Exchange believes that exchanges, in setting fees of all types, should meet very high standards of transparency to demonstrate why each new fee or fee increase meets the Exchange Act requirements that fees be reasonable, equitably allocated, not unfairly discriminatory, and not create an undue burden on competition among members and markets. In particular, the Exchange believes that each exchange should take extra care to be able to demonstrate that these fees are based on its costs and reasonable business needs.

In proposing to charge fees for connectivity and port services, the Exchange is especially diligent in assessing those fees in a transparent way against its own aggregate costs of providing the related service, and in carefully and transparently assessing the impact on Members – both generally and in relation to other Members, i.e., to assure the fee will not create a financial burden on any participant and will not have an undue impact in particular on smaller Members and competition among Members in general. The Exchange believes that this level of diligence and transparency is called for by the requirements of Section 19(b)(1) under the Act,[116] and Rule 19b-4 thereunder,[117] with respect to the types of information exchanges should provide when filing fee changes, and Section 6(b) of the Act,[118] which requires, among other things, that

---

116 15 U.S.C. 78s(b)(1).

117 17 CFR 240.19b-4.

118 15 U.S.C. 78f(b).

exchange fees be reasonable and equitably allocated,[119] not designed to permit unfair discrimination,[120] and that they not impose a burden on competition not necessary or appropriate in furtherance of the purposes of the Act.[121] This rule change proposal addresses those requirements, and the analysis and data in each of the sections that follow are designed to clearly and comprehensively show how they are met.[122] The Exchange reiterates that the legacy exchanges with whom the Exchange vigorously competes for order flow and market share, were not subject to any such diligence or transparency in setting their baseline non-transaction fees, most of which were put in place before the Revised Review Process and Staff Guidance.

As detailed below, the Exchange recently calculated its aggregate annual costs for providing physical 10Gb ULL connectivity to the Exchange at $11,567,509 (or approximately $963,959 per month, rounded to the nearest dollar when dividing the annual cost by 12 months) and its aggregate annual costs for providing Full Service MEO Ports at $1,644,132 (or approximately $137,012 per month, rounded to the nearest dollar when dividing the annual cost by 12 months). In order to cover the aggregate costs of providing connectivity to its users (both Members and non-Members[123]) going forward and to make a modest profit, as described below, the Exchange proposes to modify its Fee Schedule to charge a fee of $13,500 per month for each physical 10Gb ULL connection and to remove language providing for a shared 10Gb ULL network between the Exchange and MIAX. The Exchange also proposes to modify its Fee Schedule to charge tiered rates for Full Service MEO Ports (Bulk) depending on the number of

---

119 15 U.S.C. 78f(b)(4).

120 15 U.S.C. 78f(b)(5).

121 15 U.S.C. 78f(b)(8).

122 See Staff Guidance, supra note 27.

123 Types of market participants that obtain connectivity services from the Exchange but are not Members include service bureaus and extranets. Service bureaus offer technology-based services to other companies for a fee, including order entry services, and thus, may access application sessions on behalf of one or more Members. Extranets offer physical connectivity services to Members and non-Members.

classes assigned or the percentage of national ADV, which is in line with how the Exchange's affiliates, MIAX and MIAX Emerald, assess fees for their comparable MEI Ports.

In 2019, the Exchange completed a study of its aggregate costs to produce market data and connectivity (the "Cost Analysis").[124] The Cost Analysis required a detailed analysis of the Exchange's aggregate baseline costs, including a determination and allocation of costs for core services provided by the Exchange – transaction execution, market data, membership services, physical connectivity, and port access (which provide order entry, cancellation and modification functionality, risk functionality, the ability to receive drop copies, and other functionality). The Exchange separately divided its costs between those costs necessary to deliver each of these core services, including infrastructure, software, human resources (i.e., personnel), and certain general and administrative expenses ("cost drivers").

As an initial step, the Exchange determined the total cost for the Exchange and the affiliated markets for each cost driver as part of its 2023 budget review process. The 2023 budget review is a company-wide process that occurs over the course of many months, includes meetings among senior management, department heads, and the Finance Team. Each department head is required to send a "bottom up" budget to the Finance Team allocating costs at the profit and loss account and vendor levels for the Exchange and its affiliated markets based on a number of factors, including server counts, additional hardware and software utilization, current or anticipated functional or non-functional development projects, capacity needs, end-of-life or end-of-service intervals, number of members, market model (e.g., price time or pro-rata, simple only or simple and complex markets, auction functionality, etc.), which may impact message traffic, individual system architectures that impact platform size,[125] storage needs,

---

124 The Exchange frequently updates it Cost Analysis as strategic initiatives change, costs increase or decrease, and market participant needs and trading activity changes. The Exchange's most recent Cost Analysis was conducted ahead of this filing.

125 For example, MIAX Pearl Options maintains 12 matching engines, MIAX Pearl Equities maintains 24 matching engines, MIAX maintains 24 matching engines and MIAX Emerald maintains 12 matching engines.

dedicated infrastructure versus shared infrastructure allocated per platform based on the resources required to support each platform, number of available connections, and employees allocated time. All of these factors result in different allocation percentages among the Exchange and its affiliated markets, i.e., the different percentages of the overall cost driver allocated to the Exchange and its affiliated markets will cause the dollar amount of the overall cost allocated among the Exchange and its affiliated markets to also differ. Because the Exchange's parent company currently owns and operates four separate and distinct marketplaces, the Exchange must determine the costs associated with each actual market – as opposed to the Exchange's parent company simply concluding that all costs drivers are the same at each individual marketplace and dividing total cost by four (4) (evenly for each marketplace). Rather, the Exchange's parent company determines an accurate cost for each marketplace, which results in different allocations and amounts across exchanges for the same cost drivers, due to the unique factors of each marketplace as described above. This allocation methodology also ensures that no cost would be allocated twice or double-counted between the Exchange and its affiliated markets. The Finance Team then consolidates the budget and sends it to senior management, including the Chief Financial Officer and Chief Executive Officer, for review and approval. Next, the budget is presented to the Board of Directors and the Finance and Audit Committees for each exchange for their approval. The above steps encompass the first step of the cost allocation process.

The next step involves determining what portion of the cost allocated to the Exchange pursuant to the above methodology is to be allocated to each core service, e.g., connectivity and ports, market data, and transaction services. The Exchange and its affiliated markets adopted an allocation methodology with thoughtful and consistently applied principles to guide how much of a particular cost amount allocated to the Exchange should be allocated within the Exchange to each core service. This is the final step in the cost allocation process and is applied to each of the cost drivers set forth below. For instance, fixed costs that are not driven by client activity

(e.g., message rates), such as data center costs, were allocated more heavily to the provision of physical connectivity (60.6% of total expense amount allocated to 10Gb ULL connectivity), with smaller allocations to Full Service MEO Ports (3.4%), and the remainder to the provision of other connectivity, other ports, transaction execution, membership services and market data services (36%). This next level of the allocation methodology at the individual exchange level also took into account factors similar to those set forth under the first step of the allocation methodology process described above, to determine the appropriate allocation to connectivity or market data versus allocations for other services. This allocation methodology was developed through an assessment of costs with senior management intimately familiar with each area of the Exchange's operations. After adopting this allocation methodology, the Exchange then applied an allocation of each cost driver to each core service, resulting in the cost allocations described below. Each of the below cost allocations is unique to the Exchange and represents a percentage of overall cost that was allocated to the Exchange pursuant to the initial allocation described above.

By allocating segmented costs to each core service, the Exchange was able to estimate by core service the potential margin it might earn based on different fee models. The Exchange notes that as a non-listing venue it has five primary sources of revenue that it can potentially use to fund its operations: transaction fees, fees for connectivity and port services, membership fees, regulatory fees, and market data fees. Accordingly, the Exchange must cover its expenses from these five primary sources of revenue. The Exchange also notes that as a general matter each of these sources of revenue is based on services that are interdependent. For instance, the Exchange's system for executing transactions is dependent on physical hardware and connectivity; only Members and parties that they sponsor to participate directly on the Exchange may submit orders to the Exchange; many Members (but not all) consume market data from the Exchange in order to trade on the Exchange; and the Exchange consumes market data from external sources in order to comply with regulatory obligations. Accordingly, given

this interdependence, the allocation of costs to each service or revenue source required judgment of the Exchange and was weighted based on estimates of the Exchange that the Exchange believes are reasonable, as set forth below. While there is no standardized and generally accepted methodology for the allocation of an exchange's costs, the Exchange's methodology is the result of an extensive review and analysis and will be consistently applied going forward for any other potential fee proposals. In the absence of the Commission attempting to specify a methodology for the allocation of exchanges' interdependent costs, the Exchange will continue to be left with its best efforts to attempt to conduct such an allocation in a thoughtful and reasonable manner.

Through the Exchange's extensive updated Cost Analysis, which was again recently further refined, the Exchange analyzed every expense item in the Exchange's general expense ledger to determine whether each such expense relates to the provision of connectivity and port services, and, if such expense did so relate, what portion (or percentage) of such expense actually supports the provision of connectivity and port services, and thus bears a relationship that is, "in nature and closeness," directly related to network connectivity and port services. In turn, the Exchange allocated certain costs more to physical connectivity and others to ports, while certain costs were only allocated to such services at a very low percentage or not at all, using consistent allocation methodologies as described above. Based on this analysis, the Exchange estimates that the aggregate monthly cost to provide 10Gb ULL connectivity and Full Service MEO Port services, is $1,106,971 (utilizing the rounded numbers when dividing the annual cost for 10Gb ULL connectivity and annual cost for Full Service MEO Ports by 12 months, then adding both numbers together), as further detailed below.

Lastly, the Exchange notes that, based on: (i) the total expense amounts contained in this filing (which are 2023 projected expenses), and (ii) the total expense amounts contained in the related MIAX Pearl Equities filing (also 2023 projected expenses), MIAX PEARL, LLC's total costs have increased at a greater rate over the last three years than the total costs of MIAX

PEARL, LLC's affiliated exchanges, MIAX and MIAX Emerald. This is also reflected in the total costs reported in MIAX PEARL, LLC's Form 1 filings over the last three years, when comparing MIAX PEARL, LLC to MIAX PEARL, LLC's affiliated exchanges, MIAX and MIAX Emerald. This is primarily because that MIAX PEARL, LLC operates two markets, one for options and one for equities, while MIAX and MIAX Emerald each operate only one market. This is also due to higher current expense for MIAX PEARL, LLC for 2022 and 2023, due to a hardware refresh (i.e., replacing old hardware with new equipment) for MIAX Pearl Options, as well as higher costs associated with MIAX Pearl Equities due to greater development efforts to grow that newer marketplace.[126] The Exchange confirms that there is no double counting of expenses between the options and equities platform of MIAX Pearl; the greater expense amounts of the MIAX PEARL, LLC (relative to its affiliated exchanges, MIAX and MIAX Emerald) is solely attributed to the unique factors of MIAX Pearl discussed above.

Costs Related to Offering Physical 10Gb ULL Connectivity

---

126 See, e.g., Securities Exchange Act Release Nos. 94301 (February 23, 2022), 87 FR 11739 (March 2, 2022) (SR-PEARL-2022-06) (Notice of Filing and Immediate Effectiveness of a Proposed Rule Change To Amend Rule 2617(b) To Adopt Two New Routing Options, and To Make Related Changes and Clarifications to Rules 2614(a)(2)(B) and 2617(b)(2)); 94851 (May 4, 2022), 87 FR 28077 (May 10, 2022) (SR-PEARL-2022-15) (Notice of Filing and Immediate Effectiveness of a Proposed Rule Change To Adopt Exchange Rule 532, Order Price Protection Mechanisms and Risk Controls); 95298 (July 15, 2022), 87 FR 43579 (July 21, 2022) (SR-PEARL-2022-29) (Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by MIAX PEARL, LLC To Amend the Route to Primary Auction Routing Option Under Exchange Rule 2617(b)(5)(B)); 95679 (September 6, 2022), 87 FR 55866 (September 12, 2022) (SR-PEARL-2022-34) (Notice of Filing and Immediate Effectiveness of a Proposed Rule Change To Amend Exchange Rule 2614, Orders and Order Instructions, To Adopt the Primary Peg Order Type); 96205 (November 1, 2022), 87 FR 67080 (November 7, 2022) (SR-PEARL-2022-43) (Notice of Filing and Immediate Effectiveness of a Proposed Rule Change To Amend Rule 2614, Orders and Order Instructions and Rule 2618, Risk Settings and Trading Risk Metrics To Enhance Existing Risk Controls); 96905 (February 13, 2023), 88 FR 10391 (February 17, 2023) (SR-PEARL-2023-03) (Notice of Filing and Immediate Effectiveness of a Proposed Rule Change To Amend Exchange Rule 2618 To Add Optional Risk Control Settings); 97236 (March 31, 2023), 88 FR 20597 (April 6, 2023) (SR-PEARL-2023-15) (Notice of Filing and Immediate Effectiveness of a Proposed Rule Change To Amend Exchange Rules 2617 and 2626 Regarding Retail Orders Routed Pursuant to the Route to Primary Auction Routing Option).

The following chart details the individual line-item costs considered by the Exchange to be related to offering physical dedicated 10Gb ULL connectivity via an unshared network as well as the percentage of the Exchange's overall costs that such costs represent for each cost driver (e.g., as set forth below, the Exchange allocated approximately 26.9% of its overall Human Resources cost to offering physical connectivity).

COST DRIVERS	ALLOCATED ANNUAL COST[k]	ALLOCATED MONTHLY COST[l]	% OF ALL
Human Resources	$3,675,098	$306,258	26.3%
Connectivity (external fees, cabling, switches, etc.)	$70,163	$5,847	60.6%
Internet Services and External Market Data	$322,388	$26,866	73.3%
Data Center	$739,983	$61,665	60.6%
Hardware and Software Maintenance and Licenses	$959,157	$79,930	58.6%
Depreciation	$1,885,969	$157,164	58.2%
Allocated Shared Expenses	$3,914,751	$326,229	49.2%
TOTAL	**$11,567,509**	**$963,959**	**40.5%**

k. The Annual Cost includes figures rounded to the nearest dollar.
l. The Monthly Cost was determined by dividing the Annual Cost for each line item by twelve (12) months and rounding up or down to the nearest dollar.

Below are additional details regarding each of the line-item costs considered by the Exchange to be related to offering physical 10Gb ULL connectivity. While some costs were attempted to be allocated as equally as possible among the Exchange and its affiliated markets, the Exchange notes that some of its cost allocation percentages for certain cost drivers differ when compared to the same cost drivers for the Exchange's affiliated markets in their similar proposed fee changes for connectivity and ports. This is because MIAX Pearl Options' cost allocation methodology utilizes the actual projected costs of MIAX Pearl Options (which are

specific to MIAX Pearl Options, and are independent of the costs projected and utilized by MIAX Pearl Options' affiliated markets) to determine its actual costs, which may vary across the Exchange and its affiliated markets based on factors that are unique to each marketplace. MIAX Pearl Options provides additional explanation below (including the reason for the deviation) for the significant differences.

Human Resources

For personnel costs (Human Resources), the Exchange calculated an allocation of employee time for employees whose functions include providing and maintaining physical connectivity and performance thereof (primarily the Exchange's network infrastructure team, which spends most of their time performing functions necessary to provide physical connectivity) and for which the Exchange allocated a weighted average of 42.9% of each employee's time from the above group assigned to the Exchange based on the above-described allocation methodology. The Exchange also allocated Human Resources costs to provide physical connectivity to a limited subset of personnel with ancillary functions related to establishing and maintaining such connectivity (such as information security, sales, membership, and finance personnel), for which the Exchange allocated cost on an employee-by-employee basis (i.e., only including those personnel who support functions related to providing physical connectivity) and then applied a smaller allocation to such employees (less than 17%). The Exchange notes that it and its affiliated markets have 184 employees (excluding employees at non-options/equities exchange subsidiaries of Miami International Holdings, Inc. ("MIH"), the holding company of the Exchange and its affiliated markets), and each department leader has direct knowledge of the time spent by each employee with respect to the various tasks necessary to operate the Exchange. Specifically, twice a year, and as needed with additional new hires and new project initiatives, in consultation with employees as needed, managers and department heads assign a percentage of time to every employee and then allocate that time amongst the Exchange and its affiliated markets to determine each market's individual Human

Resources expense. Then, managers and department heads assign a percentage of each employee's time allocated to the Exchange into buckets including network connectivity, ports, market data, and other exchange services. This process ensures that every employee is 100% allocated, ensuring there is no double counting between the Exchange and its affiliated markets.

The estimates of Human Resources cost were therefore determined by consulting with such department leaders, determining which employees are involved in tasks related to providing physical connectivity, and confirming that the proposed allocations were reasonable based on an understanding of the percentage of their time such employees devote to tasks related to providing physical connectivity.[127] This includes personnel from the Exchange departments that are predominately involved in providing 1Gb and 10Gb ULL connectivity: Business Systems Development, Trading Systems Development, Systems Operations and Network Monitoring, Network and Data Center Operations, Listings, Trading Operations, and Project Management, of which the Exchange allocated 42.9% of each of their employee's time assigned to the Exchange, as stated above. The Exchange notes that senior level executives' time was only allocated to the Human Resources costs to the extent that they are involved in overseeing tasks related to providing physical connectivity. The Human Resources cost was calculated using a blended rate of compensation reflecting salary, equity and bonus compensation, benefits, payroll taxes, and 401(k) matching contributions.

Connectivity (external fees, cabling, switches, etc.)

The Connectivity cost driver includes external fees paid to connect to other exchanges and third parties, cabling and switches required to operate the Exchange. The Connectivity cost driver is more narrowly focused on technology used to complete connections to the Exchange

---

127 MIAX Pearl Options notes that while 12.3 full time equivalents ("FTEs") were allocated in this filing to MIAX Pearl Options and a similar number of FTEs in a similar filing by the Exchange's affiliates, MIAX Emerald (11.7 FTEs) and MIAX (12.9 FTEs), the overall cost percentage allocated for each differs due to the individual level of compensation for each employee assigned to work on projects for the exchanges.

and to connect to external markets. The Exchange notes that its connectivity to external markets is required in order to receive market data to run the Exchange's matching engine and basic operations compliant with existing regulations, primarily Regulation NMS.

The Exchange relies on various connectivity providers for connectivity to the entire U.S. options industry, and infrastructure services for critical components of the network that are necessary to provide and maintain its System Networks and access to its System Networks via 10Gb ULL connectivity. Specifically, the Exchange utilizes connectivity providers to connect to other national securities exchanges and the Options Price Reporting Authority ("OPRA"). The Exchange understands that these service providers provide services to most, if not all, of the other U.S. exchanges and other market participants. Connectivity provided by these service providers is critical to the Exchanges daily operations and performance of its System Networks to which market participants connect to via 10Gb ULL connectivity. Without these services providers, the Exchange would not be able to connect to other national securities exchanges, market data providers or OPRA and, therefore, would not be able to operate and support its System Networks. The Exchange does not employ a separate fee to cover its connectivity expense and recoups that expense, in part, by charging for 10Gb ULL connectivity.

Internet Services and External Market Data

The next cost driver consists of Internet Services and external market data. Internet services includes third-party service providers that provide the internet, fiber and bandwidth connections between the Exchange's networks, primary and secondary data centers, and office locations in Princeton and Miami.

External market data includes fees paid to third parties, including other exchanges, to receive market data. The Exchange includes external market data fee costs towards the provision of 10Gb ULL connectivity because such market data is necessary for certain services related to connectivity, including pre-trade risk checks and checks for other conditions (e.g., re-pricing of orders to avoid locked or crossed markets and trading collars). Since external market

data from other exchanges is consumed at the Exchange's matching engine level, (to which 10Gb ULL connectivity provides access) in order to validate orders before additional orders enter the matching engine or are executed, the Exchange believes it is reasonable to allocate a small amount of such costs to 10Gb ULL connectivity.

The Exchange relies on content service providers for data feeds for the entire U.S. options industry, as well as content for critical components of the network that are necessary to provide and maintain its System Networks and access to its System Networks via 10Gb ULL connectivity. Specifically, the Exchange utilizes content service providers to receive market data from OPRA, other exchanges and market data providers. The Exchange understands that these service providers provide services to most, if not all, of the other U.S. exchanges and other market participants. Market data provided these service providers is critical to the Exchanges daily operations and performance of its System Networks to which market participants connect to via 10Gb ULL connectivity. Without these services providers, the Exchange would not be able to receive market data and, therefore, would not be able to operate and support its System Networks. The Exchange does not employ a separate fee to cover its content service provider expense and recoups that expense, in part, by charging for 10Gb ULL connectivity.

Lastly, the Exchange notes that the actual dollar amounts allocated as part of the second step of the 2023 budget process differ among the Exchange and its affiliated markets for the Internet Services and External Market Data cost driver, even though, but for MIAX Emerald, the allocation percentages are generally consistent across markets (e.g., MIAX Emerald, MIAX, MIAX Pearl Options and MIAX Pearl Equities allocated 84.8%, 73.3%, 73.3% and 72.5%, respectively, to the same cost driver). This is because: (i) a different percentage of the overall Internet Services and External Market Data cost driver was allocated to MIAX Emerald and its affiliated markets due to the factors set forth under the first step of the 2023 budget review process described above (unique technical architecture, market

structure, and business requirements of each marketplace); and (ii) MIAX Emerald itself allocated a larger portion of this cost driver to 10Gb ULL connectivity because of recent initiatives to improve the latency and determinism of its systems. The Exchange notes while the percentage MIAX Emerald allocated to the Internet Services and External Market Data cost driver is greater than the Exchange and its other affiliated markets, the overall dollar amount allocated to the Exchange under the initial step of the 2023 budget process is lower than its affiliated markets. However, the Exchange believes that this is not, in dollar amounts, a significant difference. This is because the total dollar amount of expense covered by this cost driver is relatively small compared to other cost drivers and is due to nuances in exchange architecture that require different initial allocation amount under the first step of the 2023 budget process described above. Thus, non-significant differences in percentage allocation amounts in a smaller cost driver create the appearance of a significant difference, even though the actual difference in dollar amounts is small.

Data Center

Data Center costs includes an allocation of the costs the Exchange incurs to provide physical connectivity in the third-party data centers where it maintains its equipment (such as dedicated space, security services, cooling and power). The Exchange notes that it does not own the Primary Data Center or the Secondary Data Center, but instead, leases space in data centers operated by third parties. The Exchange has allocated a high percentage of the Data Center cost (60.6%) to physical 10Gb ULL connectivity because the third-party data centers and the Exchange's physical equipment contained therein is the most direct cost in providing physical access to the Exchange. In other words, for the Exchange to operate in a dedicated space with connectivity by market participants to a physical trading platform, the data centers are a very tangible cost, and in turn, if the Exchange did not maintain such a presence then physical connectivity would be of no value to market participants.

Hardware and Software Maintenance and Licenses

Hardware and Software Licenses includes hardware and software licenses used to operate and monitor physical assets necessary to offer physical connectivity to the Exchange.[128] The Exchange notes that this allocation is greater than MIAX and MIAX Emerald options exchanges by a significant amount as MIAX Pearl Options allocated 58.6% of its Hardware and Software Maintenance and License expense towards 10Gb ULL connectivity, while MIAX and MIAX Emerald allocated 49.8% and 50.9%, respectively, to the same category of expense. Also, MIAX Pearl Equities allocated a higher percentage of the same category of expense (58%) towards its Hardware and Software Maintenance and License expense for 10Gb ULL connectivity, which MIAX Pearl Equities explains in its own proposal to amend its 10Gb ULL connectivity fees. This is because MIAX Pearl Options is in the process of replacing and upgrading various hardware and software used to operate its options trading platform in order to maintain premium network performance. At the time of this filing, the Exchange is undergoing a major hardware refresh, replacing older hardware with new hardware. This hardware includes servers, network switches, cables, optics, protocol data units, and cabinets, to maintain a state-of-the-art technology platform. Because of the timing of the hardware refresh with the timing of this filing, the Exchange has materially higher expense than its affiliates.

Depreciation

All physical assets, software and hardware used to provide 10Gb ULL connectivity,

---

128 This expense may be greater than the Exchange's affiliated markets, specifically MIAX and MIAX Emerald, because, unlike the MIAX and MIAX Emerald, MIAX Pearl (the options and equities markets) maintains an additional gateway to accommodate its Members' and Equity Members' access and connectivity needs. This added gateway contributes to the difference in allocations between MIAX Pearl, MIAX and MIAX Emerald. This expense also differs in dollar amount among the MIAX Pearl (options and equities markets), MIAX, and MIAX Emerald because each market may maintain and utilize a different amount of hardware and software based on its market model and infrastructure needs. The Exchange allocated a percentage of the overall cost based on actual amounts of hardware and software utilized by that market, which resulted in different cost allocations and dollar amounts.

which also includes assets used for testing and monitoring of Exchange infrastructure, were valued at cost, and depreciated or leased over periods ranging from three to five years. Thus, the depreciation cost primarily relates to servers necessary to operate the Exchange, some of which are owned by the Exchange and some of which are leased by the Exchange in order to allow efficient periodic technology refreshes. The Exchange also included in the Depreciation cost driver certain budgeted improvements that the Exchange intends to capitalize and depreciate with respect to 10Gb ULL connectivity in the near-term. As with the other allocated costs in the Exchange's updated Cost Analysis, the Depreciation cost was therefore narrowly tailored to depreciation related to 10Gb ULL connectivity. As noted above, the Exchange allocated 58.2% of its allocated depreciation costs to providing physical 10Gb ULL connectivity.

The Exchange also notes that this allocation differs from its affiliated markets due to a number of factors, such as the age of physical assets and software (e.g., older physical assets and software were previously depreciated and removed from the allocation), or certain system enhancements that required new physical assets and software, thus providing a higher contribution to the depreciated cost. For example, the percentages the Exchange and its affiliate, MIAX, allocated to the depreciation of hardware and software used to provide 10Gb ULL connectivity are nearly identical. However, the Exchange's dollar amount is less than that of MIAX by approximately $35,000 per month due to two factors: first, MIAX has undergone a technology refresh since the time MIAX Pearl Options launched in 2017, leading to it having more hardware that software that is subject to depreciation. Second, MIAX maintains 24 matching engines while MIAX Pearl Options maintains only 12 matching engines. This also results in more of MIAX's hardware and software being subject to depreciation than MIAX Pearl Options' hardware and software due to the greater amount of equipment and software necessary to support the greater number of matching engines on MIAX.

Allocated Shared Expenses

Finally, a limited portion of general shared expenses was allocated to overall physical connectivity costs because without these general shared costs the Exchange would not be able to operate in the manner that it does and provide physical connectivity. The costs included in general shared expenses include general expenses of the Exchange, including office space and office expenses (e.g., occupancy and overhead expenses), utilities, recruiting and training, marketing and advertising costs, professional fees for legal, tax and accounting services (including external and internal audit expenses), and telecommunications costs. Similarly, the cost of paying directors to serve on the Exchange's Board of Directors is also included in the Exchange's general shared expense cost driver.[129] The Exchange notes that the 49.2% allocation of general shared expenses for physical 10Gb ULL connectivity is higher than that allocated to general shared expenses for Full Service MEO Ports based on its allocation methodology that weighted costs attributable to each core service based on an understanding of each area. While physical connectivity has several areas where certain tangible costs are heavily weighted towards providing such service (e.g., Data Center, as described above), Full Service MEO Ports do not require as many broad or indirect resources as other core services.

* * * * *

Approximate Cost Per 10Gb Connection Per Month

After determining the approximate allocated monthly cost related to 10Gb connectivity, the total monthly cost for 10Gb ULL connectivity of $963,959 was divided by the number of physical 10Gb ULL connections the Exchange maintained at the time that proposed pricing was determined (108), to arrive at a cost of approximately $8,925 per month, per physical 10Gb ULL connection. Due to the nature of this particular cost, this allocation methodology results in an allocation among the Exchange and its affiliated markets based on set quantifiable criteria,

---

[129] The Exchange notes that MEMX allocated a precise amount of 10% of the overall cost for directors to providing physical connectivity. The Exchange does not calculate is expenses at that granular a level. Instead, director costs are included as part of the overall general allocation.

i.e., actual number of 10Gb ULL connections.

* * * * *

Costs Related to Offering Full Service MEO Ports

The following chart details the individual line-item costs considered by the Exchange to be related to offering Full Service MEO Ports as well as the percentage of the Exchange's overall costs such costs represent for such area (e.g., as set forth below, the Exchange allocated approximately 8.3% of its overall Human Resources cost to offering Full Service MEO Ports).

COST DRIVERS	ALLOCATED ANNUAL COST[m]	ALLOCATED MONTHLY COST[n]	% OF ALL
Human Resources	$1,159,831	$96,653	8.3%
Connectivity (external fees, cabling, switches, etc.)	$1,589	$132	1.4%
Internet Services and External Market Data	$6,033	$503	1.4%
Data Center	$41,881	$3,490	3.4%
Hardware and Software Maintenance and Licenses	$22,438	$1,870	1.4%
Depreciation	$127,986	$10,666	3.9%
Allocated Shared Expenses	$284,374	$23,698	3.6%
TOTAL	**$1,644,132**	**$137,012**	**5.8%**

m. See supra note k (describing rounding of Annual Costs).
n. See supra note l (describing rounding of Monthly Costs based on Annual Costs).

Below are additional details regarding each of the line-item costs considered by the Exchange to be related to offering Full Service MEO Ports. While some costs were attempted to be allocated as equally as possible among the Exchange and its affiliated markets, the Exchange notes that some of its cost allocation percentages for certain cost drivers differ when compared to the same cost drivers for the Exchange's affiliated markets in their similar proposed fee changes for connectivity and ports. This is because the Exchange's cost allocation methodology

utilizes the actual projected costs of the Exchange (which are specific to the Exchange, and are independent of the costs projected and utilized by the Exchange's affiliated markets) to determine its actual costs, which may vary across the Exchange and its affiliated markets based on factors that are unique to each marketplace. The Exchange provides additional explanation below (including the reason for the deviation) for the significant differences.

Human Resources

With respect to Full Service MEO Ports, the Exchange calculated Human Resources cost by taking an allocation of employee time for employees whose functions include providing Full Service MEO Ports and maintaining performance thereof (including a broader range of employees such as technical operations personnel, market operations personnel, and software engineering personnel) as well as a limited subset of personnel with ancillary functions related to maintaining such connectivity (such as sales, membership, and finance personnel). Just as described above for 10Gb ULL connectivity, the estimates of Human Resources cost were again determined by consulting with department leaders, determining which employees are involved in tasks related to providing Full Service MEO Ports and maintaining performance thereof, and confirming that the proposed allocations were reasonable based on an understanding of the percentage of their time such employees devote to tasks related to providing Full Service MEO Ports and maintaining performance thereof. The Exchange notes that senior level executives were allocated Human Resources costs to the extent they are involved in overseeing tasks specifically related to providing Full Service MEO Ports.[130] This includes personnel from the following Exchange departments that are predominately involved in providing Full Service MEO Ports: Business Systems Development, Trading Systems Development, Systems

---

130 The Exchange notes that while 3.9 FTEs were allocated in this filing to the Exchange related to Full Service MEO Ports and a similar number of FTEs in similar filings by the Exchange's affiliates, MIAX Emerald (2.5 FTEs) and MIAX (3.0 FTEs) related to their Limited Service MEI Ports, the overall cost percentage allocated for each differs due to the individual level of compensation for each employee assigned to work on projects for the exchanges.

Operations and Network Monitoring, Network and Data Center Operations, Listings, Trading Operations, and Project Management. Senior level executives were only allocated Human Resources costs to the extent that they are involved in managing personnel responsible for tasks integral to providing Full Service MEO Ports. The Human Resources cost was again calculated using a blended rate of compensation reflecting salary, equity and bonus compensation, benefits, payroll taxes, and 401(k) matching contributions.

Connectivity (external fees, cabling, switches, etc.)

The Connectivity cost includes external fees paid to connect to other exchanges and cabling and switches, as described above.

Internet Services and External Market Data

The next cost driver consists of internet services and external market data. Internet services includes third-party service providers that provide the internet, fiber and bandwidth connections between the Exchange's networks, primary and secondary data centers, and office locations in Princeton and Miami. For purposes of Full Service MEO Ports, the Exchange also includes a portion of its costs related to external market data. External market data includes fees paid to third parties, including other exchanges, to receive and consume market data from other markets. The Exchange includes external market data costs towards the provision of Full Service MEO Ports because such market data is necessary (in addition to physical connectivity) to offer certain services related to such ports, such as validating orders on entry against the NBBO and checking for other conditions (e.g., halted securities).[131] Thus, since market data from other exchanges is consumed at the Exchange's Full Service MEO Port level in order to validate orders, before additional processing occurs with respect to such orders, the Exchange believes it is reasonable to allocate a small amount of such costs to Full Service MEO Ports.

---

131 The Exchange notes that MEMX separately allocated 7.5% of its external market data costs to providing physical connectivity.

The Exchange notes that the allocation for the Internet Services and External Market Data cost driver is lower than that of its affiliate, MIAX, as MIAX allocated 7.2% of its Internet Services and External Market Data expense towards Limited Service MEI Ports, while MIAX Pearl Options allocated 1.4% to its Full Service MEO Ports for the same cost driver. The allocation percentages set forth above differ because they directly correspond with the number of applicable ports utilized on each exchange. For March 2023, MIAX Market Makers utilized 1,782 Limited Service MEI ports and MIAX Emerald Market Makers utilized 1,028 Limited Service MEI Ports. When compared to Full Service Port (Bulk and Single) usage, for March 2023, MIAX Pearl Options Members utilized only 432 Full Service MEO Ports (Bulk and Single), far fewer than number of Limited Service MEI Ports utilized by Market Makers on MIAX and MIAX Emerald, thus resulting in a smaller cost allocation. There is increased cost associated with supporting a higher number of ports (requiring more hardware and other technical infrastructure and Internet Service), thus the Exchange allocates a higher percentage of expense than MIAX Pearl Options, which has a lower port count.

Data Center

Data Center costs includes an allocation of the costs the Exchange incurs to provide Full Service MEO Ports in the third-party data centers where it maintains its equipment as well as related costs for market data to then enter the Exchange's system via Full Service MEO Ports (the Exchange does not own the Primary Data Center or the Secondary Data Center, but instead, leases space in data centers operated by third parties).

Hardware and Software Maintenance and Licenses

Hardware and Software Licenses includes hardware and software licenses used to monitor the health of the order entry services provided by the Exchange, as described above.

The Exchange notes that this allocation is less than its affiliate, MIAX, as MIAX allocated 7.2% of its Hardware and Software Maintenance and License expense towards Limited Service MEI Ports, while MIAX Pearl Options allocated 1.4% to its Full Service MEO

Ports (Bulk and Single) for the same category of expense. The allocation percentages set forth above differ because they correspond with the number of applicable ports utilized on each exchange. For March 2023, MIAX Market Makers utilized 1,782 Limited Service MEI ports and MIAX Emerald Market Makers utilized 1,028 Limited Service MEI Ports. When compared to Full Service Port (Bulk and Single) usage, for March 2023, MIAX Pearl Options Members utilized only 432 Full Service MEO Ports (Bulk and Single), far fewer than number of Limited Service MEI Ports utilized by Market Makers on MIAX and MIAX Emerald, thus resulting in a smaller cost allocation. There is increased cost associated with supporting a higher number of ports (requiring more hardware and other technical infrastructure), thus the Exchange allocates a higher percentage of expense than MIAX Pearl Options, which has a lower port count.

Depreciation

The vast majority of the software the Exchange uses to provide Full Service MEO Ports has been developed in-house and the cost of such development, which takes place over an extended period of time and includes not just development work, but also quality assurance and testing to ensure the software works as intended, is depreciated over time once the software is activated in the production environment. Hardware used to provide Full Service MEO Ports includes equipment used for testing and monitoring of order entry infrastructure and other physical equipment the Exchange purchased and is also depreciated over time.

All hardware and software were valued at cost, depreciated or leased over periods ranging from three to five years. Thus, the depreciation cost primarily relates to servers necessary to operate the Exchange, some of which is owned by the Exchange and some of which is leased by the Exchange in order to allow efficient periodic technology refreshes. The Exchange allocated 3.9% of all depreciation costs to providing Full Service MEO Ports. The Exchange allocated depreciation costs for depreciated software necessary to operate the Exchange to Full Service MEO Ports because such software is related to the provision of Full Service MEO Ports. As with the other allocated costs in the Exchange's updated Cost Analysis,

the Depreciation cost driver was therefore narrowly tailored to depreciation related to Full Service MEO Ports.

The Exchange notes that this allocation differs from its affiliated markets due to a number of factors, such as the age of physical assets and software (e.g., older physical assets and software were previously depreciated and removed from the allocation), or certain system enhancements that required new physical assets and software, thus providing a higher contribution to the depreciated cost.

For example, the Exchange notes that the percentage it allocated to the depreciation cost driver for Full Service MEO Ports and the percentage its affiliate, MIAX, allocated to the depreciation cost driver for MIAX's Limited Service MEI Ports, differ by only 2.4%. However, MIAX's approximate dollar amount is greater than that of MIAX Pearl Options by approximately $9,000 per month. This is due to two primary factors. First, MIAX has under gone a technology refresh since the time MIAX Pearl Options launched in 2017, leading to it having more hardware that software that is subject to depreciation. Second, MIAX maintains 24 matching engines while MIAX Pearl Options maintains only 12 matching engines. This also results in more of MIAX's hardware and software being subject to depreciation than MIAX Pearl Options' hardware and software due to the greater amount of equipment and software necessary to support the greater number of matching engines on MIAX.

Allocated Shared Expenses

Finally, a limited portion of general shared expenses was allocated to overall Full Service MEO Ports costs as without these general shared costs the Exchange would not be able to operate in the manner that it does and provide application sessions. The costs included in general shared expenses include general expenses of the Exchange, including office space and office expenses (e.g., occupancy and overhead expenses), utilities, recruiting and training, marketing and advertising costs, professional fees for legal, tax and accounting services (including external and internal audit expenses), and telecommunications costs. The Exchange

again notes that the cost of paying directors to serve on its Board of Directors is included in the calculation of Allocated Shared Expenses, and thus a portion of such overall cost amounting to less than 4.0% of the overall cost for directors was allocated to providing Full Service MEO Ports. The Exchange notes that the 3.6% allocation of general shared expenses for Full Service MEO Ports is lower than that allocated to general shared expenses for physical connectivity based on its allocation methodology that weighted costs attributable to each Core Service based on an understanding of each area. While Full Service MEO Ports have several areas where certain tangible costs are heavily weighted towards providing such service (e.g., Data Centers, as described above), 10Gb ULL connectivity requires a broader level of support from Exchange personnel in different areas, which in turn leads to a broader general level of cost to the Exchange.

Lastly, the Exchange notes that this allocation is less than its affiliate, MIAX, as MIAX allocated 9.8% of its Allocated Shared Expense towards Limited Service MEI Ports, while MIAX Pearl Options allocated 3.6% to its Full Service MEO Ports (Bulk and Single) for the same category of expense. The allocation percentages set forth above differ because they correspond with the number of applicable ports utilized on each exchange. For March 2023, MIAX Market Makers utilized 1,782 Limited Service MEI Ports and MIAX Emerald Market Makers utilized 1,028 Limited Service MEI ports. When compared to Full Service Port (Bulk and Single) usage, for March 2023, MIAX Pearl Options Members utilized only 432 Full Service MEO Ports (Bulk and Single), far fewer than number of Limited Service MEI Ports utilized by Market Makers on MIAX, thus resulting in a smaller cost allocation. There is increased cost associated with supporting a higher number of ports (requiring more hardware and other technical infrastructure), thus the Exchange allocates a higher percentage of expense than MIAX Pearl Options which has a lower port count.

* * * * *

Approximate Cost Per Limited Service MEI Port Per Month

The total monthly cost allocated to Full Service MEO Ports of $137,012 was divided by the number of chargeable Full Service MEO Ports the Exchange maintained at the time that proposed pricing was determined (20 total; 16 Full Service MEO Port, Bulk, and 4 Full Service MEO Port, Single), to arrive at a cost of approximately $6,851 per month, per charged Full Service MEO Port.

* * * * *

Cost Analysis – Additional Discussion

In conducting its Cost Analysis, the Exchange did not allocate any of its expenses in full to any core services (including physical connectivity or Full Service MEO Ports) and did not double- count any expenses. Instead, as described above, the Exchange allocated applicable cost drivers across its core services and used the same Cost Analysis to form the basis of this proposal and the filings the Exchange submitted proposing fees for proprietary data feeds offered by the Exchange. For instance, in calculating the Human Resources expenses to be allocated to physical connections based upon the above described methodology, the Exchange has a team of employees dedicated to network infrastructure and with respect to such employees the Exchange allocated network infrastructure personnel with a high percentage of the cost of such personnel (42.9%) given their focus on functions necessary to provide physical connections. The salaries of those same personnel were allocated only 12.3% to Full Service MEO Ports and the remaining 44.8% was allocated to 1Gb connectivity, other port services, transaction services, membership services and market data. The Exchange did not allocate any other Human Resources expense for providing physical connections to any other employee group, outside of a smaller allocation of 16.9% for 10Gb ULL connectivity or 17.3% for the entire network, of the cost associated with certain specified personnel who work closely with and support network infrastructure personnel. In contrast, the Exchange allocated much smaller percentages of costs (6.0% or less) across a wider range of personnel groups in order to allocate

Human Resources costs to providing Full Service MEO Ports. This is because a much wider range of personnel are involved in functions necessary to offer, monitor and maintain Full Service MEO Ports but the tasks necessary to do so are not a primary or full-time function.

In total, the Exchange allocated 26.9% of its personnel costs to providing 10Gb ULL and 1Gb ULL connectivity and 8.3% of its personnel costs to providing Full Service MEO Ports, for a total allocation of 35.2% Human Resources expense to provide these specific connectivity and port services. In turn, the Exchange allocated the remaining 64.8% of its Human Resources expense to membership services, transaction services, other port services and market data. Thus, again, the Exchange's allocations of cost across core services were based on real costs of operating the Exchange and were not double-counted across the core services or their associated revenue streams.

As another example, the Exchange allocated depreciation expense to all core services, including physical connections and Full Service MEO Ports, but in different amounts. The Exchange believes it is reasonable to allocate the identified portion of such expense because such expense includes the actual cost of the computer equipment, such as dedicated servers, computers, laptops, monitors, information security appliances and storage, and network switching infrastructure equipment, including switches and taps that were purchased to operate and support the network. Without this equipment, the Exchange would not be able to operate the network and provide connectivity services to its Members and non-Members and their customers. However, the Exchange did not allocate all of the depreciation and amortization expense toward the cost of providing connectivity services, but instead allocated approximately 62.1% of the Exchange's overall depreciation and amortization expense to connectivity services (58.2% attributed to 10Gb ULL physical connections and 3.9% to Full Service MEO Ports). The Exchange allocated the remaining depreciation and amortization expense (approximately 37.9%) toward the cost of providing transaction services, membership services, other port services and market data.

The Exchange notes that its revenue estimates are based on projections across all potential revenue streams and will only be realized to the extent such revenue streams actually produce the revenue estimated. The Exchange does not yet know whether such expectations will be realized. For instance, in order to generate the revenue expected from connectivity, the Exchange will have to be successful in retaining existing clients that wish to maintain physical connectivity and/or Full Service MEO Ports or in obtaining new clients that will purchase such services. Similarly, the Exchange will have to be successful in retaining a positive net capture on transaction fees in order to realize the anticipated revenue from transaction pricing.

The Exchange notes that the Cost Analysis is based on the Exchange's 2023 fiscal year of operations and projections. It is possible, however, that actual costs may be higher or lower. To the extent the Exchange sees growth in use of connectivity services it will receive additional revenue to offset future cost increases.

However, if use of connectivity services is static or decreases, the Exchange might not realize the revenue that it anticipates or needs in order to cover applicable costs. Accordingly, the Exchange is committing to conduct a one-year review after implementation of these fees. The Exchange expects that it may propose to adjust fees at that time, to increase fees in the event that revenues fail to cover costs and a reasonable mark-up of such costs. Similarly, the Exchange may propose to decrease fees in the event that revenue materially exceeds our current projections. In addition, the Exchange will periodically conduct a review to inform its decision making on whether a fee change is appropriate (e.g., to monitor for costs increasing/decreasing or subscribers increasing/decreasing, etc. in ways that suggest the then-current fees are becoming dislocated from the prior cost-based analysis) and would propose to increase fees in the event that revenues fail to cover its costs and a reasonable mark-up, or decrease fees in the event that revenue or the mark-up materially exceeds our current projections. In the event that the Exchange determines to propose a fee change, the results of a timely review, including an updated cost estimate, will be included in the rule filing proposing the fee change. More

generally, we believe that it is appropriate for an exchange to refresh and update information about its relevant costs and revenues in seeking any future changes to fees, and the Exchange commits to do so.

Projected Revenue[132]

The proposed fees will allow the Exchange to cover certain costs incurred by the Exchange associated with providing and maintaining necessary hardware and other network infrastructure as well as network monitoring and support services; without such hardware, infrastructure, monitoring and support the Exchange would be unable to provide the connectivity and port services. Much of the cost relates to monitoring and analysis of data and performance of the network via the subscriber's connection(s). The above cost, namely those associated with hardware, software, and human capital, enable the Exchange to measure network performance with nanosecond granularity. These same costs are also associated with time and money spent seeking to continuously improve the network performance, improving the subscriber's experience, based on monitoring and analysis activity. The Exchange routinely works to improve the performance of the network's hardware and software. The costs associated with maintaining and enhancing a state-of-the-art exchange network is a significant expense for the Exchange, and thus the Exchange believes that it is reasonable and appropriate to help offset those costs by amending fees for connectivity services. Subscribers, particularly those of 10Gb ULL connectivity, expect the Exchange to provide this level of support to connectivity so they continue to receive the performance they expect. This differentiates the Exchange from its competitors. As detailed above, the Exchange has five primary sources of revenue that it can potentially use to fund its operations: transaction fees, fees for connectivity

---

132 For purposes of calculating revenue for 10Gb ULL connectivity, the Exchange used revenues for February 2023, the first full month for which it provided dedicated 10Gb ULL connectivity to MIAX Pearl Options and ceased operating a shared 10Gb ULL network with MIAX.

services, membership and regulatory fees, and market data fees. Accordingly, the Exchange must cover its expenses from these five primary sources of revenue.

The Exchange's Cost Analysis estimates the annual cost to provide 10Gb ULL connectivity services will equal $11,567,509. Based on current 10Gb ULL connectivity services usage, the Exchange would generate annual revenue of approximately $17,496,000. The Exchange believes this represents a modest profit of 34% when compared to the cost of providing 10Gb ULL connectivity services, which could decrease over time.[133] The Exchange's Cost Analysis estimates the annual cost to provide Full Service MEO Port services will equal $1,644,132. Based on current Full Service MEO Port services usage, the Exchange would generate annual revenue of approximately $1,644,000. The Exchange believes this would result in a small negative margin after calculating the cost of providing Full Service MEO Port services, which could decrease further over time.[134]

Based on the above discussion, even if the Exchange earns the above revenue or incrementally more or less, the proposed fees are fair and reasonable because they will not result in excessive pricing that deviates from that of other exchanges or a supra-competitive profit, when comparing the total expense of the Exchange associated with providing 10Gb ULL connectivity and Full Service MEO Port services versus the total projected revenue of the Exchange associated with network 10Gb ULL connectivity and Full Service MEO Port services.

The Exchange also notes that this the resultant profit margin differs slightly from the profit margins set forth in similar fee filings by its affiliated markets. This is not atypical

---

133 Assuming the U.S. inflation rate continues at its current rate, the Exchange believes that the projected profit margins in this proposal will decrease; however, the Exchange cannot predict with any certainty whether the U.S. inflation rate will continue at its current rate or its impact on the Exchange's future profits or losses. See, e.g., https://www.usinflationcalculator.com/inflation/current-inflation-rates/ (last visited June 15, 2023).

134 Id.

among exchanges and is due to a number of factors that differ between these four markets, including: different market models, market structures, and product offerings (equities, options, price-time, pro-rata, simple, and complex); different pricing models; different number of market participants and connectivity subscribers; different maintenance and operations costs, as described in the cost allocation methodology above; different technical architecture (e.g., the number of matching engines per exchange, i.e., the Exchange maintains 12 matching engines while MIAX maintains 24 matching engines); and different maturity phase of the Exchange and its affiliated markets (i.e., start-up versus growth versus more mature). All of these factors contribute to a unique and differing level of profit margin per exchange.

Further, the Exchange proposes to charge rates that are comparable to, or lower than, similar fees for similar products charged by competing exchanges. For example, for 10Gb ULL connectivity, the Exchange proposes a lower fee than the fee charged by Nasdaq for its comparable 10Gb Ultra fiber connection ($13,500 per month for the Exchange vs. $15,000 per month for Nasdaq).[135] NYSE American charges even higher fees for its comparable 10GB LX LCN connection than the Exchange's proposed fees ($13,500 for the Exchange vs. $22,000 per month for NYSE American).[136] Accordingly, the Exchange believes that comparable and competitive pricing are key factors in determining whether a proposed fee meets the requirements of the Act, regardless of whether that same fee across the Exchange's affiliated markets leads to slightly different profit margins due to factors outside of the Exchange's control (i.e., more subscribers to 10Gb ULL connectivity on the Exchange than its affiliated markets or vice versa).

* * * * *

---

135 See NASDAQ Pricing Schedule, Options 7, Section 3, Ports and Other Services and NASDAQ Rules, General 8: Connectivity, Section 1. Co-Location Services.

136 See NYSE American Options Fee Schedule, Section V.A. Port Fees and Section V.B. Co-Location Fees.

The Exchange has operated at a cumulative net annual loss since it launched operations in 2017.[137] This is due to a number of factors, one of which is choosing to forgo revenue by offering certain products, such as low latency connectivity, at lower rates than other options exchanges to attract order flow and encourage market participants to experience the high determinism, low latency, and resiliency of the Exchange's trading systems. The Exchange does not believe it should now be penalized for seeking to raise its fees as it now needs to upgrade its technology and absorb increased. Therefore, the Exchange believes the proposed fees are reasonable because they are based on both relative costs to the Exchange to provide dedicated 10Gb ULL connectivity and Full Service MEO Ports, the extent to which the product drives the Exchange's overall costs and the relative value of the product, as well as the Exchange's objective to make access to its Systems broadly available to market participants. The Exchange also believes the proposed fees are reasonable because they are designed to generate annual revenue to recoup the Exchange's costs of providing dedicated 10Gb ULL connectivity and Full Service MEO Ports.

The Exchange notes that its revenue estimate is based on projections and will only be realized to the extent customer activity produces the revenue estimated. As a competitor in the hyper-competitive exchange environment, and an exchange focused on driving competition, the Exchange does not yet know whether such projections will be realized. For instance, in order to generate the revenue expected from 10Gb ULL connectivity and Full Service MEO Ports, the Exchange will have to be successful in retaining existing clients that wish to utilize 10Gb ULL connectivity and Full Service MEO Ports and/or obtaining new clients that will purchase such access. To the extent the Exchange is successful in encouraging new clients to utilize 10Gb ULL connectivity and Full Service MEO Ports, the Exchange does not believe it should be

---

137 The Exchange has incurred a cumulative loss of $79 million since its inception in 2017 to 2021. See Exchange's Form 1/A, Application for Registration or Exemption from Registration as a National Securities Exchange, filed July 28, 2021, available at https://www.sec.gov/Archives/edgar/vprr/2100/21000461.pdf.

penalized for such success. To the extent the Exchange has mispriced and experiences a net loss in connectivity clients or in transaction activity, the Exchange could experience a net reduction in revenue. While the Exchange is supportive of transparency around costs and potential margins (applied across all exchanges), as well as periodic review of revenues and applicable costs (as discussed below), the Exchange does not believe that these estimates should form the sole basis of whether or not a proposed fee is reasonable or can be adopted. Instead, the Exchange believes that the information should be used solely to confirm that an Exchange is not earning – or seeking to earn – supra-competitive profits. The Exchange believes the Cost Analysis and related projections in this filing demonstrate this fact.

The Exchange is owned by a holding company that is the parent company of four exchange markets and, therefore, the Exchange and its affiliated markets must allocate shared costs across all of those markets accordingly, pursuant to the above-described allocation methodology. In contrast, the Investors Exchange LLC ("IEX") and MEMX, which are currently each operating only one exchange, in their recent non-transaction fee filings allocate the entire amount of that same cost to a single exchange. This can result in lower profit margins for the non-transaction fees proposed by IEX and MEMX because the single allocated cost does not experience the efficiencies and synergies that result from sharing costs across multiple platforms. The Exchange and its affiliated markets often share a single cost, which results in cost efficiencies that can cause a broader gap between the allocated cost amount and projected revenue, even though the fee levels being proposed are lower or competitive with competing markets (as described above). To the extent that the application of a cost-based standard results in Commission Staff making determinations as to the appropriateness of certain profit margins, the Exchange believes that Commission Staff should also consider whether the proposed fee level is comparable to, or competitive with, the same fee charged by competing exchanges and how different cost allocation methodologies (such as across multiple markets) may result in different profit margins for comparable fee levels. Further, if Commission Staff is making

determinations as to appropriate profit margins in their approval of exchange fees, the Exchange believes that the Commission should be clear to all market participants as to what they have determined is an appropriate profit margin and should apply such determinations consistently and, in the case of certain legacy exchanges, retroactively, if such standards are to avoid having a discriminatory effect.

Further, as is reflected in the proposal, the Exchange continuously and aggressively works to control its costs as a matter of good business practice. A potential profit margin should not be evaluated solely on its size; that assessment should also consider cost management and whether the ultimate fee reflects the value of the services provided. For example, a profit margin on one exchange should not be deemed excessive where that exchange has been successful in controlling its costs, but not excessive on another exchange where that exchange is charging comparable fees but has a lower profit margin due to higher costs. Doing so could have the perverse effect of not incentivizing cost control where higher costs alone could be used to justify fees increases.

The Proposed Pricing is not Unfairly Discriminatory and Provides for the Equitable Allocation of Fees, Dues, and other Charges

The Exchange believes that the proposed fees are reasonable, fair, equitable, and not unfairly discriminatory because they are designed to align fees with services provided and will apply equally to all subscribers.

10Gb ULL Connectivity

The Exchange believes that the proposed fees are equitably allocated among users of the network connectivity and port alternatives, as the users of 10Gb ULL connections consume substantially more bandwidth and network resources than users of 1Gb ULL connection. Specifically, the Exchange notes that 10Gb ULL connection users account for more than 99% of message traffic over the network, driving other costs that are linked to capacity utilization, as described above, while the users of the 1Gb ULL connections account for less than 1% of

message traffic over the network. In the Exchange's experience, users of the 1Gb connections do not have the same business needs for the high-performance network as 10Gb ULL users.

The Exchange's high-performance network and supporting infrastructure (including employee support), provides unparalleled system throughput with the network ability to support access to several distinct options markets. To achieve a consistent, premium network performance, the Exchange must build out and maintain a network that has the capacity to handle the message rate requirements of its most heavy network consumers. These billions of messages per day consume the Exchange's resources and significantly contribute to the overall network connectivity expense for storage and network transport capabilities. The Exchange must also purchase additional storage capacity on an ongoing basis to ensure it has sufficient capacity to store these messages to satisfy its record keeping requirements under the Exchange Act.[138] Thus, as the number of messages an entity increases, certain other costs incurred by the Exchange that are correlated to, though not directly affected by, connection costs (e.g., storage costs, surveillance costs, service expenses) also increase. Given this difference in network utilization rate, the Exchange believes that it is reasonable, equitable, and not unfairly discriminatory that the 10Gb ULL users pay for the vast majority of the shared network resources from which all market participants' benefit.

Full Service MEO Ports

The tiered pricing structure for Full Service MEO Ports has been in effect since 2018.[139] The Exchange now proposes a pricing structure that is used by the Exchange's affiliates, MIAX and MIAX Emerald, except with lower pricing for each tier for Full Service MEO Ports (Bulk) and a flat fee for Full Service MEO Ports (Single). Members that are frequently in the highest

---

138 17 CFR 240.17a-1 (recordkeeping rule for national securities exchanges, national securities associations, registered clearing agencies and the Municipal Securities Rulemaking Board).

139 See Securities Exchange Act Release No. 82867 (March 13, 2018), 83 FR 12044 (March 19, 2018) (SR-PEARL-2018-07).

tier for Full Service MEO Ports consume the most bandwidth and resources of the network. Specifically, as noted above for 10Gb ULL connectivity, Market Makers who reach the highest tier for Full Service MEO Ports (Bulk) account for greater than 84% of ADV on the Exchange, while Market Makers that are typically in the lowest Tier for Full Service MEO Ports, account for less than 14% of ADV on the Exchange. The remaining 1% is accounted for by Market Makers who are frequently in the middle Tier for Full Service MEO Ports (Bulk).

To achieve a consistent, premium network performance, the Exchange must build out and maintain a network that has the capacity to handle the message rate requirements of its most heavy network consumers during anticipated peak market conditions. The need to support billions of messages per day consume the Exchange's resources and significantly contribute to the overall network connectivity expense for storage and network transport capabilities. The Exchange must also purchase additional storage capacity on an ongoing basis to ensure it has sufficient capacity to store these messages as part of it surveillance program and to satisfy its record keeping requirements under the Exchange Act.[140] Thus, as the number of connections a Market Maker has increases, the related pull on Exchange resources also increases. The Exchange sought to design the proposed tiered-pricing structure to set the amount of the fees to relate to the number of connections a firm purchases. The more connections purchased by a Market Maker likely results in greater expenditure of Exchange resources and increased cost to the Exchange.

The Exchange further believes that the proposed fees are reasonable, equitably allocated and not unfairly discriminatory because, for the flat fee, the Exchange provides each Member two (2) Full Service MEO Ports for each matching engine to which that Member is connected. Unlike other options exchanges that provide similar port functionality and charge fees on a per

---

140 17 CFR 240.17a-1 (recordkeeping rule for national securities exchanges, national securities associations, registered clearing agencies and the Municipal Securities Rulemaking Board).

port basis,[141] the Exchange offers Full Service MEO Ports as a package and provides Members with the option to receive up to two Full Service MEO Ports per matching engine to which it connects. The Exchange currently has twelve (12) matching engines, which means Members may receive up to twenty-four (24) Full Service MEO Ports for a single monthly fee, that can vary based on certain volume percentages. The Exchange currently assesses Members a fee of $5,000 per month in the highest Full Service MEO Port - Bulk Tier, regardless of the number of Full Service MEO Ports allocated to the Member. Assuming a Member connects to all twelve (12) matching engines during a month, with two Full Service MEO Ports per matching engine, this results in a cost of $208.33 per Full Service MEO Port - Bulk ($5,000 divided by 24) for the month. This fee has been unchanged since the Exchange adopted Full Service MEO Port fees in 2018.[142] Members will continue to receive two (2) Full Service MEO Ports to each matching engine to which they are connected for the single flat monthly fee. Assuming a Member connects to all twelve (12) matching engines during the month, and achieves the highest Tier for that month, with two Full Service MEO Ports (Bulk) per matching engine, this would result in a cost of $500 per Full Service MEO Port ($12,000 divided by 24).

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 that is not necessary or appropriate in furtherance of the purposes of the Act.

Intra-Market Competition

The Exchange believes the proposed fees will not result in any burden on intra-market competition that is not necessary or appropriate in furtherance of the purposes of the Act because the proposed fees will allow the Exchange to recoup some of its costs in providing 10Gb ULL connectivity and Full Service MEO Ports at below market rates to market

---

141 See supra notes b to j and accompanying text.

142 See Securities Exchange Act Release No. 82867 (March 13, 2018), 83 FR 12044 (March 19, 2018) (SR-PEARL-2018-07).

participants since the Exchange launched operations. As described above, the Exchange has operated at a cumulative net annual loss since it launched operations in 2017[143] due to providing a low-cost alternative to attract order flow and encourage market participants to experience the high determinism and resiliency of the Exchange's trading Systems. To do so, the Exchange chose to waive the fees for some non-transaction related services and Exchange products or provide them at a very lower fee, which was not profitable to the Exchange. This resulted in the Exchange forgoing revenue it could have generated from assessing any fees or higher fees. The Exchange could have sought to charge higher fees at the outset, but that could have served to discourage participation on the Exchange. Instead, the Exchange chose to provide a low-cost exchange alternative to the options industry, which resulted in lower initial revenues. Examples of this are 10Gb ULL connectivity and Full Service MEO Ports, for which the Exchange only now seeks to adopt fees at a level similar to or lower than those of other options exchanges.

Further, the Exchange does not believe that the proposed fee increase for the 10Gb ULL connection change would place certain market participants at the Exchange at a relative disadvantage compared to other market participants or affect the ability of such market participants to compete. As is the case with the current proposed flat fee, the proposed fee would apply uniformly to all market participants regardless of the number of connections they choose to purchase. The proposed fee does not favor certain categories of market participants in a manner that would impose an undue burden on competition.

The Exchange does not believe that the proposed rule change would place certain market participants at the Exchange at a relative disadvantage compared to other market participants or affect the ability of such market participants to compete. In particular, Exchange personnel has been informally discussing potential fees for connectivity services with a diverse group of market participants that are connected to the Exchange (including large and small firms, firms

---

143 See supra note 137.

with large connectivity service footprints and small connectivity service footprints, as well as extranets and service bureaus) for several months leading up to that time. The Exchange does not believe the proposed fees for connectivity services would negatively impact the ability of Members, non-Members (extranets or service bureaus), third-parties that purchase the Exchange's connectivity and resell it, and customers of those resellers to compete with other market participants or that they are placed at a disadvantage.

The Exchange does anticipate, however, that some market participants may reduce or discontinue use of connectivity services provided directly by the Exchange in response to the proposed fees. In fact, as mentioned above, one MIAX Pearl Options Market Maker terminated their membership on January 1, 2023 as a direct result of the proposed fee changes.[144] The Exchange does not believe that the proposed fees for connectivity services place certain market participants at a relative disadvantage to other market participants because the proposed connectivity pricing is associated with relative usage of the Exchange by each market participant and does not impose a barrier to entry to smaller participants. The Exchange believes its proposed pricing is reasonable and, when coupled with the availability of third-party providers that also offer connectivity solutions, that participation on the Exchange is affordable for all market participants, including smaller trading firms. As described above, the connectivity services purchased by market participants typically increase based on their additional message traffic and/or the complexity of their operations. The market participants that utilize more connectivity services typically utilize the most bandwidth, and those are the

---

144 The Exchange acknowledges that IEX included in its proposal to adopt market data fees after offering market data for free an analysis of what its projected revenue would be if all of its existing customers continued to subscribe versus what its projected revenue would be if a limited number of customers subscribed due to the new fees. See Securities Exchange Act Release No. 94630 (April 7, 2022), 87 FR 21945 (April 13, 2022) (SR-IEX-2022-02). MEMX did not include a similar analysis in either of its recent non-transaction fee proposals. See, e.g., supra note 90. The Exchange does not believe a similar analysis would be useful here because it is amending existing fees, not proposing to charge a new fee where existing subscribers may terminate connections because they are no longer enjoying the service at no cost.

participants that consume the most resources from the network. Accordingly, the proposed fees for connectivity services do not favor certain categories of market participants in a manner that would impose a burden on competition; rather, the allocation of the proposed connectivity fees reflects the network resources consumed by the various size of market participants and the costs to the Exchange of providing such connectivity services.

Inter-Market Competition

The Exchange also does not believe that the proposed rule change will result in any burden on inter-market competition that is not necessary or appropriate in furtherance of the purposes of the Act. As discussed above, options market participants are not forced to connect to all options exchanges. There is no reason to believe that our proposed price increase will harm another exchange's ability to compete. There are other options markets of which market participants may connect to trade options at higher rates than the Exchange's. There is also a range of alternative strategies, including routing to the exchange through another participant or market center or accessing the Exchange indirectly. Market participants are free to choose which exchange or reseller to use to satisfy their business needs. Accordingly, the Exchange does not believe its proposed fee changes impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act.

The Exchange also believes that the proposed fees for 10Gb connectivity are appropriate and warranted in light of it bifurcating 10Gb connectivity between the Exchange and MIAX and would not impose any burden on competition because this is a technology driven change that would assist the Exchange in recovering costs related to providing dedicating 10Gb connectivity to the Exchange while enabling it to continue to meet current and anticipated demands for connectivity by its Members and other market participants. Separating its 10Gb network from MIAX would enable the Exchange to better compete with other exchanges by ensuring it can continue to provide adequate connectivity to existing and new Members, which may increase in ability to compete for order flow and deepen its liquidity pool, improving the overall quality of

its market.

The proposed rates for 10Gb ULL connectivity are also driven by the Exchange's need to bifurcate its 10Gb ULL network shared with MIAX so that it can continue to meet current and anticipated connectivity demands of all market participants. Similarly, and also in connection with a technology change, Cboe Exchange, Inc. ("Cboe") amended access and connectivity fees, including port fees.[145] Specifically, Cboe adopted certain logical ports to allow for the delivery and/or receipt of trading messages – i.e., orders, accepts, cancels, transactions, etc. Cboe established tiered pricing for BOE and FIX logical ports, tiered pricing for BOE Bulk ports, and flat prices for DROP, Purge Ports, GRP Ports and Multicast PITCH/Top Spin Server Ports. Cboe argued in its fee proposal that the proposed pricing more closely aligned its access fees to those of its affiliated exchanges, and reasonably so, as the affiliated exchanges offer substantially similar connectivity and functionality and are on the same platform that Cboe migrated to.[146] Cboe also justified its proposal by stating that, "…the Exchange believes substitutable products and services are in fact available to market participants, including, among other things, other options exchanges a market participant may connect to in lieu of the Exchange, indirect connectivity to the Exchange via a third-party reseller of connectivity and/or trading of any options product, including proprietary products, in the Over- the-Counter (OTC) markets."[147] Cboe stated in its proposal that,

> The rule structure for options exchanges are also fundamentally different from those of equities exchanges. In particular, options market participants are not forced to connect to (and purchase market data from) all options exchanges. For example, there are many order types that are available in the equities markets

---

145 See Securities Exchange Act Release No. 90333 (November 4, 2020), 85 FR 71666 (November 10, 2020) (SR-CBOE-2020-105). The Exchange notes that Cboe submitted this filing after the Staff Guidance and contained no cost based justification.

146 Id. at 71676.

147 Id.

> that are not utilized in the options markets, which relate to mid-point pricing and pegged pricing which require connection to the SIPs and each of the equities exchanges in order to properly execute those orders in compliance with best execution obligations. Additionally, in the options markets, the linkage routing and trade through protection are handled by the exchanges, not by the individual members. Thus not connecting to an options exchange or disconnecting from an options exchange does not potentially subject a broker-dealer to violate order protection requirements. Gone are the days when the retail brokerage firms (such as Fidelity, Schwab, and eTrade) were members of the options exchanges – they are not members of the Exchange or its affiliates, they do not purchase connectivity to the Exchange, and they do not purchase market data from the Exchange. Accordingly, not only is there not an actual regulatory requirement to connect to every options exchange, the Exchange believes there is also no "de facto" or practical requirement as well, as further evidenced by the recent significant reduction in the number of broker-dealers that are members of all options exchanges.[148]

The proposal also referenced the National Market System Plan Governing the Consolidated Audit Trail ("CAT NMS Plan"),[149] wherein the Commission discussed the existence of competition in the marketplace generally, and particularly for exchanges with unique business models. The Commission acknowledged that, even if an exchange were to exit the marketplace due to its proposed fee-related change, it would not significantly impact competition in the market for exchange trading services because these markets are served by

---

148 Id. at 71676.

149 See Securities Exchange Act Release No. 86901 (September 9, 2019), 84 FR 48458 (September 13, 2019) (File No. S7-13-19).

multiple competitors.[150] Further, the Commission explicitly stated that "[c]onsequently, demand for these services in the event of the exit of a competitor is likely to be swiftly met by existing competitors."[151] Finally, the Commission recognized that while some exchanges may have a unique business model that is not currently offered by competitors, a competitor could create similar business models if demand were adequate, and if a competitor did not do so, the Commission believes it would be likely that new entrants would do so if the exchange with that unique business model was otherwise profitable.[152]

Cboe also filed to establish a monthly fee for Certification Logical Ports of $250 per Certification Logical Port.[153] Cboe reasoned that purchasing additional Certification Logical Ports, beyond the one Certification Logical Port per logical port type offered in the production environment free of charge, is voluntary and not required in order to participate in the production environment, including live production trading on the Exchange.[154]

In its statutory basis, Cboe justified the new port fee by stating that it believed the Certification Logical Port fee were reasonable because while such ports were no longer completely free, TPHs and non-TPHs would continue to be entitled to receive free of charge one Certification Logical Port for each type of logical port that is currently offered in the production environment.[155] Cboe noted that other exchanges assess similar fees and cited to

---

150 Id.

151 Id.

152 Id.

153 See Securities Exchange Act Release No. 94512 (March 24, 2002), 87 FR 18425 (March 30, 2022) (SR-Cboe-2022-011). Cboe offers BOE and FIX Logical Ports, BOE Bulk Logical Ports, DROP Logical Ports, Purge Ports, GRP Ports and Multicast PITCH/Top Spin Server Ports. For each type of the aforementioned logical ports that are used in the production environment, the Exchange also offers corresponding ports which provide Trading Permit Holders and non-TPHs access to the Exchange's certification environment to test proprietary systems and applications (i.e., "Certification Logical Ports").

154 See Securities Exchange Act Release No. 94512 (March 24, 2002), 87 FR 18425 (March 30, 2022) (SR-Cboe-2022-011).

155 Id. at 18426.

NASDAQ LLC and MIAX.[156] Cboe also noted that the decision to purchase additional ports is optional and no market participant is required or under any regulatory obligation to purchase excess Certification Logical Ports in order to access the Exchange's certification environment.[157] Finally, similar proposals to adopt a Certification Logical Port monthly fee were filed by Cboe BYX Exchange, Inc.,[158] BZX,[159] and Cboe EDGA Exchange, Inc.[160]

The Cboe fee proposals described herein were filed subsequent to the D.C. Circuit decision in Susquehanna Int'l Grp., LLC v. SEC, 866 F.3d 442 (D.C. Cir. 2017), meaning that such fee filings were subject to the same (and current) standard for SEC review and approval as this proposal. In summary, the Exchange requests the Commission apply the same standard of review to this proposal which was applied to the various Cboe and Cboe affiliated markets' filings with respect to non-transaction fees. If the Commission were to apply a different standard of review to this proposal than it applied to other exchange fee filings it would create a burden on competition such that it would impair the Exchange's ability to make necessary technology driven changes, such as bifurcating its 10Gb ULL network, because it would be unable to monetize or recoup costs related to that change and compete with larger, non-legacy exchanges.

* * * * *

In conclusion, as discussed thoroughly above, the Exchange regrettably believes that the application of the Revised Review Process and Staff Guidance has adversely affected inter-market competition among legacy and non-legacy exchanges by impeding the ability of non-

---

156 Id.

157 Id.

158 See Securities Exchange Act Release No. 94507 (March 24, 2002), 87 FR 18439 (March 30, 2022) (SR-CboeBYX-2022-004).

159 See Securities Exchange Act Release No. 94511 (March 24, 2002), 87 FR 18411 (March 30, 2022) (SR-CboeBZX-2022-021).

160 See Securities Exchange Act Release No. 94517 (March 25, 2002), 87 FR 18848 (March 31, 2022) (SR-CboeEDGA-2022-004).

legacy exchanges to adopt or increase fees for their market data and access services (including connectivity and port products and services) that are on parity or commensurate with fee levels previously established by legacy exchanges. Since the adoption of the Revised Review Process and Staff Guidance, and even more so recently, it has become extraordinarily difficult to adopt or increase fees to generate revenue necessary to invest in systems, provide innovative trading products and solutions, and improve competitive standing to the benefit of non-legacy exchanges' market participants. Although the Staff Guidance served an important policy goal of improving disclosures and requiring exchanges to justify that their market data and access fee proposals are fair and reasonable, it has also negatively impacted non-legacy exchanges in particular in their efforts to adopt or increase fees that would enable them to more fairly compete with legacy exchanges, despite providing enhanced disclosures and rationale under both competitive and cost basis approaches provided for by the Revised Review Process and Staff Guidance to support their proposed fee changes.

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

The Exchange received one comment letter on the Initial Proposal, one comment letter on the Second Proposal, and one comment letter on the Third Proposal, all from the same commenter.[161] In their letters, the sole commenter seeks to incorporate comments submitted on previous Exchange proposals to which the Exchange has previously responded. To the extent the sole commenter has attempted to raise new issues in its letters, the Exchange believes those issues are not germane to this proposal in particular, but rather raise larger issues with the current environment surrounding exchange non-transaction fee proposals that should be addressed by the Commission through rule making, or Congress, more holistically and not

---

161 See letter from Brian Sopinsky, General Counsel, Susquehanna International Group, LLP ("SIG"), to Vanessa Countryman, Secretary, Commission, dated February 7, 2023, and letters from Gerald D. O'Connell, SIG, to Vanessa Countryman, Secretary, Commission, dated March 21, 2023 and May 24, 2023.

through an individual exchange fee filing. Among other things, the commenter is requesting additional data and information that is both opaque and a moving target and would constitute a level of disclosure materially over and above that provided by any competitor exchanges.

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,[162] and Rule 19b-4(f)(2)[163] thereunder. 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 necessary or appropriate in the public interest, for the protection of investors, or 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 (https://www.sec.gov/rules/sro.shtml); or
- Send an email to rule-comments@sec.gov. Please include file number SR-PEARL-2023-27 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.

---

162 15 U.S.C. 78s(b)(3)(A)(ii).

163 17 CFR 240.19b-4(f)(2).

All submissions should refer to file number SR-PEARL-2023-27. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's internet website (https://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 a.m. and 3 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. Do not include personal identifiable information in submissions; you should submit only information that you wish to make available publicly. We may redact in part or withhold entirely from publication submitted material that is obscene or subject to copyright protection. All submissions should refer to file number SR-PEARL-2023-27 and should be submitted on or before **[INSERT DATE 21 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.[164]

Vanessa A. Countryman,

Secretary.

[FR Doc. 2023-14020 Filed: 6/30/2023 8:45 am; Publication Date: 7/3/2023]

---

164 17 CFR 200.30-3(a)(12).