ADV–H in paper format no later than one business day after the subject filing was due, and submit the subject filing electronically through IARD no later than seven business days after the subject filing was due. The temporary hardship exemption is granted when the adviser files the completed Form ADV–H.

A continuing hardship exemption provides an exemption from electronic filing for no more than one year. It is available to certain advisers registered or registering with the Commission; it is not available to exempt reporting advisers. Such adviser must be a small business and be able to demonstrate that the electronic filing requirements are prohibitively burdensome or expensive. To apply for a continuing hardship exemption, an adviser must file Form ADV–H at least ten business days before a filing is due. The Commission will grant or deny the application within ten business days after the adviser files Form ADV–H. If the Commission approves the application, the adviser may submit filings to FINRA in paper format for the period of time for which the exemption is granted.

The purpose of the collection of information is to enable the Commission to process requests for temporary hardship exemptions and to determine whether to grant a continuing hardship exemption from the requirement for advisers to make Advisers Act filings electronically through IARD.

Respondents are investment advisers registered or registering with the Commission, as well as exempt reporting advisers. Based on our experience and data, we estimate that there are 20,926 respondents, consisting of 15,414 registered investment advisers and 5,512 exempt reporting advisers. Of those respondents, we estimate that we would receive one response annually, and each response would take approximately one hour to complete. Therefore, we estimate an annual aggregate burden of one hour for this collection of information.

The collection of information does not require recordkeeping or records retention. The collection of information requirements are mandatory. The information collected is a filing with the Commission, and is not kept confidential. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid control number.

The public may view background documentation for this information collection at the following website: *www.reginfo.gov.* Find this particular information collection by selecting ''Currently under 30-day Review—Open for Public Comments'' or by using the search function. Written comments and recommendations for the proposed information collection should be sent within 30 days of publication of this notice by June 7, 2023 to (i) *MBX.OMB.OIRA.SEC_desk_officer@omb.eop.gov* and (ii) David Bottom, Director/Chief Information Officer, Securities and Exchange Commission, c/o John Pezzullo, 100 F Street NE, Washington, DC 20549, or by sending an email to: *PRA_Mailbox@sec.gov.*

Dated: May 2, 2023.

Sherry R. Haywood,

Assistant Secretary.

[FR Doc. 2023–09674 Filed 5–5–23; 8:45 am]

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SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–97417; File No. SR–PEARL–2023–18]

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

May 2, 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 April 20, 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 fee schedule (the ''Fee Schedule'') applicable to MIAX Pearl Equities, an equities trading facility, 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.

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 to amend fees for: (1) the 1 gigabit (''Gb'') and 10Gb ultra-low latency (''ULL'') fiber connections for Equity Members[4] and non-Members; (2) the Financial Information Exchange (''FIX'') Ports,[5] and the MIAX Express Orders Interface (''MEO'') Ports.[6] The Exchange adopted connectivity and port fees in September 2020,[7] and has not changed those fees since they were adopted. Since that time, the Exchange experienced ongoing increases in expenses, particularly internal expenses.[8] As discussed more fully below, the Exchange recently calculated increased annual aggregate costs of $18,331,650 for providing 1Gb and 10Gb ULL connectivity combined and

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

[2] 17 CFR 240.19b–4.

[3] All references to the ''Exchange'' in this filing refer to MIAX Pearl Equities. Any references to the options trading facility of MIAX PEARL, LLC will specifically be referred to as ''MIAX Pearl Options.''

[4] The term ''Equity Member'' means a Member authorized by the Exchange to transact business on MIAX PEARL Equities. *See* Exchange Rule 1901.

[5] ''FIX Order Interface'' or ''FOI'' means the Financial Information Exchange interface for certain order types as set forth in Exchange Rule 2614. *See* the Definitions section of the Fee Schedule.

[6] Each MEO interface will have one Full Service Port (''FSP'') and one Purge Port. ''Full Service Port'' or ''FSP'' means an MEO port that supports all MEO order input message types. *See* the Definitions section of the Fee Schedule.

[7] *See* Securities Exchange Act Release No. 90651 (December 11, 2020), 85 FR 81971 (December 17, 2020) (SR–PEARL–2020–33).

[8] 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.

$3,951,993 for providing FIX and MEO Ports.[9]

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 and port 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 1Gb connectivity, 10Gb ULL connectivity and FIX and MEO Ports in order to recoup ongoing costs and increased expenses set forth below in the Exchange's cost analysis. 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–2022–61) (the ''Initial Proposal'').[10] On February 23, 2023, the Exchange withdrew the Initial Proposal and replaced it with a revised proposal (SR–PEARL–2023–06) (the ''Second Proposal'').[11] On April 20, 2023, the Exchange withdrew the Second Proposal and replaced it with this revised proposal (SR–PEARL–2023–18).

The Exchange previously included a cost analysis in the Initial Proposal. 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,[12] and MIAX Emerald,[13] together with MIAX and MIAX Pearl Options, 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 Proposal, the fees themselves have not changed since the Initial Proposal and the Exchange still proposes fees that are intended to cover the Exchange's cost of providing 1Gb and 10Gb ULL connectivity and FIX and MEO Ports.

* * * * *

Starting in 2017, following the United States Court of Appeals for the District of Columbia's *Susquehanna Decision*[14] 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 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.[15] 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.[16] 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'').[17] 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.''[18] The Commission denied requests by various exchanges and plan participants for reconsideration of the Remand Order.[19] 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.''[20] Both the Remand Order and the Order Denying Reconsideration were appealed to the D.C. Circuit.

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.[21] 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.''[22] 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

[9] 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 Equities only and not MIAX Pearl Options, the options trading facility.

[10] *See* Securities Exchange Act Release No. 96631 (January 10, 2023), 88 FR 2671 (January 17, 2023) (SR–PEARL–2022–61).

[11] *See* Securities Exchange Act Release No. 97077 (March 8, 2023), 88 FR 15746 (March 14, 2023) (SR–PEARL–2023–06).

[12] The term ''MIAX'' means Miami International Securities Exchange, LLC. *See* Exchange Rule 100.

[13] The term ''MIAX Emerald'' means MIAX Emerald, LLC. *See* Exchange Rule 100.

[14] *See Susquehanna International Group, LLP* v. *Securities & Exchange Commission,* 866 F.3d 442 (D.C. Circuit 2017) (the ''Susquehanna Decision'').

[15] *Id.*

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

[17] *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 CFR 242.608(d) (asserted as an alternative basis of jurisdiction in some applications).

[18] *Id.* at page 2.

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

[20] Order Denying Reconsideration, 2019 WL 2022819, at *13.

[21] *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).

[22] 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'').

significant competitive forces.'' [23] 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.'' [24]

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* [25] and remanded for further proceedings consistent with its opinion.[26] 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.'' [27] 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.[28] 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.*'' [29] 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.[30]

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.'' [31] 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'').[32] The 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 [33] 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.[34] 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 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 the Exchange, to provide detailed cost-based analysis

[23] *Id.*

[24] *Id.*

[25] *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.

[26] *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.*

[27] *Id.* at *2; *see also id.* (''[T]he sole purpose of the challenged remand has disappeared.'').

[28] *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'').

[29] *Id.*

[30] *Sec. Indus. & Fin. Mkts. Ass'n,* Securities Exchange Act Release No. 90087 (October 5, 2020).

[31] *See supra* note 26, at page 2.

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

[33] 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.

[34] *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 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.[35] 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 [36] and $80,383,000 for 2021.[37] Cboe C2 Exchange, Inc. (''C2'') reported ''access and capacity fee'' revenue of $19,016,000 for 2020 [38] and $22,843,000 for 2021.[39] Cboe BZX Exchange, Inc. (''BZX'') reported ''access and capacity fee'' revenue of $38,387,000 for 2020 [40] and $44,800,000 for 2021.[41] Cboe EDGX Exchange, Inc. (''EDGX'') reported ''access and capacity fee'' revenue of $26,126,000 for 2020 [42] and $30,687,000 for 2021.[43] 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.[44] 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.'' [45]

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,[46] 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 . . .'',[47] 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, MIAX Pearl Options has attempted to increase similar fees using a cost-based justification numerous times, having submitted over six filings.[48] 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 [49] 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

[35] For example, the options exchange affiliates of MIAX Pearl Equities, MIAX, MIAX Pearl Options, and MIAX Emerald, have filed, and subsequently withdrawn, various forms of connectivity and port fee changes at least seven (7) times since August 2021. Each of the proposals contained hundreds of cost and revenue disclosures never previously disclosed by legacy exchanges in their access and market data fee filings prior to 2019.

[36] 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.*

[37] *See* Cboe 2022 Form 1 Amendment, *available at https://www.sec.gov/Archives/edgar/vprr/2200/22001155.pdf.*

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

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

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

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

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

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

[44] 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.*

[45] *See* PHLX Form 1 Amendment, *available at https://www.sec.gov/Archives/edgar/vprr/2100/21000475.pdf.* The Exchanges 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.

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

[47] *See supra* note 22, at note 1.

[48] *See, e.g.,* 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).

[49] 15 U.S.C. 78f(b)(4).

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 exhaustive articulation of required data and its views on acceptable margins,[50] 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; [51] 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 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 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 and Staff Guidance and refuse to allow such filings to be approved despite significantly enhanced arguments and cost disclosures.[52]

Lastly, the Exchange notes that the Commission Staff has allowed similar fee increases by other exchanges to remain in effect by publishing those filings for comment and allowing the exchange to withdraw and re-file numerous times.[53] Recently, the Commission Staff has not afforded the Exchange the same flexibility.[54] This again is evidence that the Commission Staff is not treating non-transaction fee filings in a consistent manner and is holding exchanges to different levels of scrutiny in reviewing filings.

* * * * *

1Gb and 10Gb ULL Connectivity Fee Change

Sections 2a) and b) of the Fee Schedule describe network connectivity fees for the 1Gb ULL and 10Gb ULL fiber connections, which are charged to both Equity Members and non-Members for connectivity to the Exchange's primary and secondary facilities. The Exchange offers its Equity Members the ability to connect to the Exchange in order to transmit orders to and receive information from the Exchange. Equity Members can also choose to connect to the Exchange indirectly through physical connectivity maintained by a third-party extranet. Extranet physical connections may provide access to one or multiple Equity Members on a single connection. The number of physical connections assigned to each User [55] as of March 31, 2023, ranges from one to thirteen, depending on the scope and scale of the Equity Member's trading activity on the Exchange as determined by the Equity Member, including the Equity Member's determination of the need for redundant connectivity. The Exchange notes that 40% of its Equity Members do not maintain a physical connection directly with the Exchange in the Primary Data Center (though many such Equity Members have connectivity through a third-party provider) and another 46% have either one or two physical ports to connect to the Exchange in the Primary Data Center. Thus, only a limited number of Equity Members, 14%, maintain three or more physical ports to connect to the Exchange in the Primary Data Center.

In order to partially cover the continuous increase in aggregate costs of providing physical connectivity to Equity Members and non-Equity Members, as described below, the Exchange proposes to amend the monthly connectivity fees as follows: (a) increase the 1Gb ULL connection from $1,000 to $2,500; and (b) increase the 10Gb ULL connection from $3,500 to $8,000.[56]

[50] 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.

[51] 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.*

[52] 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.

[53] *See, e.g.,* Securities Exchange Act Release Nos. 93937 (January 10, 2022), 87 FR 2466 (January 14, 2022) (SR–MEMX–2021–22); 94419 (March 15, 2022), 87 FR 16046 (March 21, 2022) (SR–MEMX–2022–02); SR–MEMX–2022–12 (withdrawn before being noticed); 94924 (May 16, 2022), 87 FR 31026 (May 20, 2022) (SR–MEMX–2022–13); 95299 (July 15, 2022), 87 FR 43563 (July 21, 2022) (SR–MEMX–2022–17); SR–MEMX–2022–24 (withdrawn before being noticed); 95936 (September 27, 2022), 87 FR 59845 (October 3, 2022) (SR–MEMX–2022–26); 94901 (May 12, 2022), 87 FR 30305 (May 18, 2022) (SR–MRX–2022–04); SR–MRX–2022–06 (withdrawn before being noticed); 95262 (July 12, 2022), 87 FR 42780 (July 18, 2022) (SR–MRX–2022–09); 95710 (September 8, 2022), 87 FR 56464 (September 14, 2022) (SR–MRX–2022–12); 96046 (October 12, 2022), 87 FR 63119 (October 18, 2022) (SR–MRX–2022–20); 95936 (September 27, 2022), 87 FR 59845 (October 3, 2022) (SR–MEMX–2022–26); *and* 96430 (December 1, 2022), 87 FR 75083 (December 7, 2022) (SR–MEMX–2022–32).

[54] *See* Securities Exchange Act Release Nos. 94721 (April 14, 2022), 87 FR 23573 (April 20, 2022) (SR–PEARL–2022–11) *and* 94722 (April 14, 2022), 87 FR 23660 (April 20, 2022) (SR–PEARL–2022–12).

[55] The term ''User'' shall mean any Member or Sponsored Participant who is authorized to obtain access to the System pursuant to Exchange Rule 2602. *See* Exchange Rule 1901.

[56] The Exchange notes that while its proposed fee of $8,000 per 10Gb ULL connection is higher than MEMX's $6,000 monthly fee for its xNet Physical Connection, MEMX does not offer any other physical connectivity, such as a 1Gb connection, for a lower fee. *See* Securities Exchange Act Release No. 95936 (September 27, 2022), 87 FR 59845 (October 3, 2022) (SR–MEMX–2022–26). *See* MEMX Fee Schedule, Connectivity and Application Sessions, *available at https://info.memxtrading.com/fee-schedule/* (last visited April 18, 2023).

FIX and MEO Ports

Similar to other exchanges, the Exchange offers its Equity Members application sessions, also known as ports, for order entry and receipt of trade execution reports and order messages. Equity Members can also choose to connect to the Exchange indirectly through a session maintained by a third-party service bureau. Service bureau sessions may provide access to one or multiple Equity Members on a single session. The number of sessions assigned to each User as of April 18, 2023, ranges from one to more than 100, depending on the scope and scale of the Equity Member's trading activity on the Exchange (either through a direct connection or through a service bureau) as determined by the Equity Member. For example, by using multiple sessions, Equity Members can segregate order flow from different internal desks, business lines, or customers. The Exchange does not impose any minimum or maximum requirements for how many application sessions an Equity Member or service bureau can maintain, and does not propose to impose any minimum or maximum session requirements for its Equity Members or their service bureaus.

Section 2)d), Port Fees, of the Fee Schedule describes fees for access and services used by Equity Members and non-Members. The Exchange provides the following types of ports: (i) FIX Ports, which allow Equity Members to send orders and other messages using the FIX protocol; and (ii) MEO Ports, which allow Equity Members order entry capabilities to all Exchange matching engines.

The Exchange operates a primary and secondary data center as well as a disaster recovery center. Each Port provides access to all Exchange data centers for a single fee. The Exchange currently provides the first twenty-five (25) FIX and MEO Ports free of charge and absorbed all associated costs since the launch of MIAX Pearl Equities. The Exchange charges the following separate monthly fees for FIX and MEO Ports: $450 for ports 26–50, $400 for ports 51–75, $350 for ports 76–100, and $300 for ports 101 and higher. The Exchange now proposes to provide the first five (5) FIX or MEO Ports free of charge, then charge a flat rate of $450 per port for port six (6) and above.[57]

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[58] in general, and furthers the objectives of section 6(b)(4) of the Act[59] in particular, in that it provides for the equitable allocation of reasonable dues, fees and other charges among Equity 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[60] 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 Review Process and as set forth in recent Staff Guidance. Based on both the BOX Order[61] and the Staff Guidance,[62] 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.''[63] 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.''[64] 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.''[65]

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 begin to recover its costs to provide dedicated access via 1Gb and 10Gb ULL connectivity as well as FIX and 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 Equity Member firms. The absence of a reasonable path

[57] The Exchange notes that the proposed fee of $450 per port equals the amount charged by MEMX for MEMX's application sessions (order entry and drop copy ports), but MEMX does not offer any ports free of charge. *See* MEMX Fee Schedule, Connectivity and Application Sessions, *available at https://info.memxtrading.com/fee-schedule/* (last visited April 18, 202). *See* Securities Exchange Act Release No. 95936 (September 27, 2022), 87 FR 59845 (October 3, 2022) (SR–MEMX–2022–26). Unlike MEMX and other exchanges, the Exchange also continues to provide FXD Ports (*i.e.,* Drop Copy Ports) free of charge.

[58] 15 U.S.C. 78f(b).

[59] 15 U.S.C. 78f(b)(4).

[60] 15 U.S.C. 78f(b)(5).

[61] *See supra* note 21.

[62] *See supra* note 22.

[63] *Id.*

[64] *Id.*

[65] *Id.*

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 September 2020 and adopted its initial fee schedule, with 1Gb ULL connectivity set at $1,000, 10Gb ULL connectivity fees set at $3,500, and provided the first twenty-five (25) FIX and MEO Ports for free.[66] As a new exchange entrant, the Exchange chose to offer such services at a discounted rate or 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.[67]

The Exchange has not amended any of its non-transaction fees since its launch in September 2022. 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'. . . .'' [68]

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.'' [69]

Congress directed the Commission to ''rely on 'competition, whenever possible, in meeting its regulatory responsibilities for overseeing the SROs and the national market system.' '' [70] 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.'' [71] 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.'' [72] 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.'' [73]

The Exchange believes the competing exchanges' 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 exchanges with comparable market shares. As such, the Exchange believes that denying its ability to institute fees that are 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

[66] *See supra* note 7.

[67] *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–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).

[68] *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)).

[69] *See* Securities Exchange Act Release No. 51808 (June 9, 2005), 70 FR 37496, 37499 (June 29, 2005) (''Regulation NMS Adopting Release'').

[70] *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.'').

[71] *See* Securities Exchange Act Release No. 59039 (December 2, 2008), 73 FR 74,770 (December 9, 2008) (SR–NYSEArca–2006–21).

[72] *Id.*

[73] *See* Staff Guidance, *supra* note 22.

similar to or less than fees charged for similar connectivity and port access provided by other exchanges with similar market share. Each of the market data rates in place at competing 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 Equities(as proposed) (market share of 1.54% for the month of March 2023)[74].	1Gb ULL connection	$2,500.
	10Gb ULL connection	$8,000.
	FIX and MEO Ports	1–5 ports: FREE 6 ports or more: $450 per port.
	FXD Ports (*i.e.,* Drop Copy Ports	FREE.
MEMX[75] (market share of 3.12% for the month of March 2023)[76]	1Gb connection	Not available.
	xNet Physical connection	$6,000 per connection.
	Order Entry Ports	$450 per port.
	Drop Copy Ports	$450 per port.
NASDAQ PSX LLC (''PSX'')[77] (market share of 0.48% for the month of March 2023)[78].	1Gb connection	$2,500 per connection (plus $1,500 installation fee).
	10Gb connection	$7,500 per connection (plus $1,500 installation fee).
	Order Entry Ports	$400 per port.
	Drop Copy Ports	$400 per port.
NASDAQ BX LLC (''BX'')[79] (market share of 0.37% for the month of March 2023)[80].	1Gb Ultra connection	$2,500 per connection (plus $1,500 installation fee).
	10Gb Ultra connection	$15,000 (plus $1,500 installation fee).
	Order Entry Ports	$500 per port.
	Drop Copy Ports	$500 per port.

There is no requirement, regulatory or otherwise, that any broker-dealer connect to and access any (or all of) the available equity exchanges. Market participants may choose to become a member of one or more equities 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 of MIAX Pearl Options terminated their membership effective January 1, 2023 as a direct result of the proposed fee changes to the MIAX Pearl Options fee schedule.

It is not a requirement for market participants to become members of all equities exchanges, in fact, certain market participants conduct an equities business as a member of only one market.[81] A very small number of market participants choose to become a member of all sixteen (16) equities exchanges. Most firms that actively trade on equities markets are not currently Equity Members of the Exchange and do not purchase connectivity or port services at the Exchange. Connectivity and ports are only available to Equity Members or service bureaus, and only an Equity Member may utilize a port.[82]

BOX 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.[83] For equities, the Exchange currently has 45 Equity Members. Also, MEMX noted in a January 2022 filing that it had only 66 members, and, based on publicly available information regarding a sample of the Exchange's competitors, NYSE has 142 members, Cboe BZX has 140 members, and Investors Exchange LLC (''IEX'') has 133 members.[84] For options, the Exchange and its affiliates, MIAX and MIAX Emerald, have a total of 47 members. Of those 47 total members, 35 are members of all three affiliated exchanges, four (4) are members of only two (2) affiliated exchanges, and eight (8) are members of only one affiliated exchange. The Exchange believes that significant differences in membership numbers describes by the Exchange, BOX, and MEMX demonstrate that firms can, and do, select which exchanges they wish to access, and, accordingly, exchanges must take competitive considerations into account when setting fees for such access. The Exchange also notes that no firm is an Equity Member of the Exchange only. The above data evidences that a broker-dealer need not have direct connectivity to all exchanges, let alone the Exchange and its affiliates, and broker-dealers may elect to do so based on their own

[74] *See* Market at a Glance, *available at https://www.miaxoptions.com/.*

[75] *See* MEMX Fee Schedule, Connectivity and Application Sessions, *available at https://info.memxtrading.com/fee-schedule/.*

[76] *See supra* note 74.

[77] *See* PSX Pricing Schedule, *available at https://www.nasdaqtrader.com/Trader.aspx?id=PSX_Pricing; and* PSX Rules, General 8: Connectivity, Section 2, Direct Connectivity.

[78] *See supra* note 74.

[79] *See* BX Pricing Schedule, *available at https://www.nasdaqtrader.com/Trader.aspx?id=bx_pricing; and BX Rules*, General 8: Connectivity, Section 2, Direct Connectivity.

[80] *See supra* note 74.

[81] 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.''

[82] Service Bureaus may obtain ports on behalf of Equity Members.

[83] *See* Securities Exchange Act Release No. 94894 (May 11, 2022), 87 FR 29987 (May 17, 2022) (SR–BOX–2022–17).

[84] *See* Securities Exchange Act Release No. 93927 (January 7, 2022), 87 FR 2191 (January 13, 2022) (SR–MEMX–2021–19).

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 equities 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 exchanges discussed above. 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, 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 equities securities; (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 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 an Equity Member at—or establish connectivity to—the Exchange.[85] If the Exchange is not at the NBBO, 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.[86]

With respect to the submission of orders, Equity Members may also choose not to purchase any connection at all from the Exchange, and instead rely on the port of a third party to submit an order. For example, a third-party broker-dealer Equity 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,[87] or request sponsored access[88] through a member of an exchange in order to submit a trade directly to an equities exchange.[89] 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-Equity Members and 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).[90] 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.[91] 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 equities 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 Equity Members and secure access to its environment. To properly regulate its Equity 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 Equity Members secure access to communicate with the Exchange and exercise trading rights. When a market participant elects to be an Equity Member, and is approved for membership by the Exchange, the Equity Member is granted trading rights to enter orders and/or quotes into Exchange through secure connections.

Again, there is no legal or regulatory requirement that a market participant become an Equity Member of the Exchange, or, if it is an Equity Member, to purchase connectivity beyond the one connection that is necessary to quote or submit orders on the Exchange. Equity Members may freely choose to rely on one or many connections, depending on their business model. 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 an Equity 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.

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

[85] *See* 17 CFR 242.611.

[86] Equity Members may elect to not route their orders by utilizing the Do Not Route or Post Only order type instructions. *See* Exchange Rule 2614(c)(1) and (2).

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

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

[89] This may include utilizing a floor broker and submitting the trade to an equities trading floor.

[90] *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).

[91] 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.

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 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 Equity Members—both generally and in relation to other Equity 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 Equity Members and competition among Equity 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,[92] and Rule 19b–4 thereunder,[93] with respect to the types of information SROs should provide when filing fee changes, and section 6(b) of the Act,[94] which requires, among other things, that exchange fees be reasonable and equitably allocated,[95] not designed to permit unfair discrimination,[96] and that they not impose a burden on competition not necessary or appropriate in furtherance of the purposes of the Act.[97] 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.[98] 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 1Gb and 10Gb ULL connectivity to the Exchange at $18,331,650 combined ($17,726,799 for 10Gb ULL connectivity and $604,851 for 1Gb connectivity) (or approximately $1,527,637 per month for combined connectivity costs, rounded to the nearest dollar when dividing the combined annual cost by 12 months). The Exchange also recently calculated its aggregate annual costs for providing FIX and MEO Ports at $3,951,993 combined ($911,998 for FIX Ports and $3,039,995 for MEO Ports) (or approximately $329,333 per month for combined FIX and MEO Port costs, rounded to the nearest dollar when dividing the combined annual cost by 12 months). In order to cover a portion of the aggregate costs of providing connectivity to its Users (both Equity Members and non-Equity Members [99]) going forward, as described below, the Exchange proposes to modify its Fee Schedule as described above.

In 2020, the Exchange completed a study of its aggregate costs to produce market data and connectivity (the ''Cost Analysis'').[100] 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. That total cost was then divided among the Exchange and each of 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), which may impact message traffic, individual system architectures that impact platform size,[101] storage needs, 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. This will result in different allocation percentages among the Exchange and its affiliated markets. Meanwhile this allocation methodology ensures that no portion of any cost was allocated twice or double-counted between the Exchange and its affiliated markets.

Next, the Exchange adopted an allocation methodology with thoughtful and consistently applied principles to guide how much of a particular cost amount allocated to the Exchange pursuant to the above methodology should be allocated within the Exchange to each core service. 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 (62%), with smaller allocations to FIX Ports (1.2%) and MEO Ports (3.8%), and the remainder to the provision of transaction execution, membership services and market data services (33%). This next level of the allocation methodology at the individual exchange level also took into account a number of factors similar to those set forth under the first allocation methodology described above, to determine the appropriate allocation to connectivity or market data versus what is to be allocated to providing other services. The 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 estimated 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

[92] 15 U.S.C. 78s(b)(1).

[93] 17 CFR 240.19b–4.

[94] 15 U.S.C. 78f(b).

[95] 15 U.S.C. 78f(b)(4).

[96] 15 U.S.C. 78f(b)(5).

[97] 15 U.S.C. 78f(b)(8).

[98] *See* Staff Guidance, *supra* note 22.

[99] Types of market participants that obtain connectivity services from the Exchange but are not Equity 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 Equity Members. Extranets offer physical connectivity services to Equity Members and non-Equity Members.

[100] 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.

[101] For example, MIAX Pearl Equities maintains 24 matching engines, MIAX Pearl Options maintains 12 matching engines, MIAX maintains 24 matching engines and MIAX Emerald maintains 12 matching engines.

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 Equity Members and parties that they sponsor to participate directly on the Exchange may submit orders to the Exchange; many Equity 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 is left with its best efforts attempt to conduct such an allocation in a thoughtful and reasonable manner.

Through the Exchange's extensive updated Cost Analysis, 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 services, and, if such expense did so relate, what portion (or percentage) of such expense actually supports the provision of connectivity services, and thus bears a relationship that is, ''in nature and closeness,'' directly related to network connectivity 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 cost drivers to provide 1Gb and10Gb ULL connectivity, as well as FIX and MEO Ports, result in an aggregate combined monthly cost of $1,856,970, 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 Options 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, all of which are discussed in more detail below. MIAX PEARL, LLC confirms that there is no double counting of expenses between the options and equities platform of MIAX PEARL, LLC; the greater expense amounts of MIAX PEARL, LLC (relative to its affiliated exchanges, MIAX and MIAX Emerald) is solely attributed to the unique factors of MIAX PEARL, LLC discussed above.

Costs Related to Offering Physical 1Gb and 10Gb ULL Connectivity

The following charts detail the individual line-item costs considered by the Exchange to be related to offering physical dedicated 1Gb and 10Gb ULL connectivity via an unshared network as well as the percentage of the Exchange's overall costs that such costs represent for such area (*e.g.,* as set forth below, the Exchange allocated approximately 47.6% of its overall Human Resources cost to offering physical 1Gb and 10Gb ULL connectivity).

10Gb ULL Connectivity

Cost drivers	Annual cost [102]	Monthly cost [103]	% of all
Human Resources	$5,936,741	$494,728	46.1
Connectivity (external fees, cabling, switches, etc.)	69,451	5,788	60
Internet Services, including External Market Data	1,818,808	151,567	72.5
Data Center	1,052,797	87,733	60
Hardware and Software Maintenance and Licenses	642,112	53,509	58
Depreciation	3,448,206	287,351	73.6
Allocated Shared Expenses	4,758,684	396,557	48.6
Total	17,726,799	1,477,233	54

1Gb ULL Connectivity

Cost drivers	Annual cost [104]	Monthly cost [105]	% of all
Human Resources	$202,566	$16,880	1.6
Connectivity (external fees, cabling, switches, etc.)	2,370	197	2.0
Internet Services, including External Market Data	62,059	5,172	2.5
Data Center	35,922	2,993	2.0
Hardware and Software Maintenance and Licenses	21,909	1,826	2.0
Depreciation	117,655	9,805	2.5
Allocated Shared Expenses	162,370	13,531	1.7

1GB ULL CONNECTIVITY—Continued

Cost drivers	Annual cost[104]	Monthly cost[105]	% of all
Total	604,851	50,404	1.8

Below are additional details regarding each of the line-item costs considered by the Exchange to be related to offering physical 1Gb and 10Gb ULL connectivity. The Exchange notes that some of its cost allocation percentages for certain categories of expense differ when compared to the same categories of expense described by the Exchange's affiliates 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 affiliates) to determine its actual costs. The Exchange provides additional explanation below (including the reason for the deviation) where the Exchange considers such deviation in allocations to be more than *de minimis.*

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 percentages of 58% for 10Gb ULL connectivity and 2.0% for 1Gb connectivity of each employee's time 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 and finance personnel), for which the Exchange allocated cost on an employee-by-employee basis (*i.e.,* only including those personnel who do support functions related to providing physical connectivity) and then applied a smaller allocation to such employees (less than 37%). The Exchange notes that it and its affiliated markets have 184 employees and each department leader has direct knowledge of the time spent by those 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 each employee, 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 that market's individual Human Resources expense. Then, again in consultation with each employee, 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. This includes personnel from the following 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. The Exchange notes that senior level executives were only allocated Human Resources costs to the extent the Exchange believed 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.

Lastly, the Exchange notes that the above allocation for 10Gb ULL connectivity is greater than its affiliate options exchanges by more than a *de minimis* amount as MIAX Pearl Equities allocated 46.1% of its Human Resources expense towards 10Gb ULL connectivity, while MIAX, MIAX Pearl Options and MIAX Emerald allocated 25%, 26.3% and 28%, respectively, to the same category of expense. This difference is due to meaningfully more current and anticipated business and technology initiatives dedicated to MIAX Pearl Equities than its affiliate options exchanges at the time of this filing. These initiatives include: enhancements to routing options, expanding the available order types, adding direct market data connectivity to competing exchanges, and adopting additional risk controls.[106] MIAX Pearl Equities is a relatively new market (launched in September of 2020), and, as a result, more personnel are allocated to work on various business initiatives and enhancements to help the market grow, add new functionality, and expand its product offerings. These

[102] The Annual Cost includes figures rounded to the nearest dollar.

[103] 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.

[104] *See supra* note 102.

[105] *See supra* note 103.

[106] *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).

technology changes directly impact the Exchange's interface specifications and matching engine which, in turn, impacts connectivity by requiring additional coding, testing, and other updates necessary to accommodate the above initiatives.

Connectivity and Internet Services

The Connectivity cost includes external fees paid to connect to other exchanges and third parties, cabling and switches required to operate the Exchange. The Connectivity line-item is more narrowly focused on technology used to complete connections to the Exchange 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 and content service providers for connectivity and data feeds for the entire U.S. equities industry, as well as content, connectivity, 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 1Gb and 10Gb ULL connectivity. Specifically, the Exchange utilizes connectivity and content service providers to connect to other national securities exchanges, the NASDAQ UTP and CTA/CQ Plans, and to receive market data from 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. Connectivity and 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 connect to other national securities exchanges, market data providers, or the NASDAQ UTP and CTA/CQ Plans 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 and content service provider expense and recoups that expense, in part, by charging for 1Gb and 10Gb ULL connectivity.

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 (62%) to physical 1Gb and 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 of 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.

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 included External Market Data fees to the provision of physical connectivity as such market data is necessary here to offer certain services related to such connectivity, such as certain risk checks that are performed prior to execution, and checking for other conditions (*e.g.,* limit order price protection, trading collars). This allocation was included as part of the Internet Services cost described above.[107] Thus, as market data from other Exchanges is consumed at the matching engine level, (to which physical connectivity provides access to) in order to validate orders before additional entering the matching engine or being executed, the Exchange believes it is reasonable to allocate a small amount of such costs to 10Gb ULL connectivity.

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.[108] The Exchange notes that this allocation is greater than MIAX and MIAX Emerald options exchanges by more than a *de minimis* amount as MIAX Pearl Equities allocated 58% 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. MIAX Pearl Options allocated a higher percentage of the same category of expense (58.6%) towards its Hardware and Software Maintenance and License expense for 10Gb ULL connectivity, which MIAX Pearl Options explains in its own proposal to amend its 10Gb ULL connectivity fees. This difference in allocation is because MIAX Pearl Equities maintains software licenses that are unique to its trading platform and used only for the trading of equity securities. The cost for these licenses cannot be shared with MIAX Pearl Equities' affiliated options markets because each of those platforms trade only options, not equities. MIAX Pearl Equities' affiliates are able to share the cost of many of their software licenses among the multiple options platforms (thus lowering the cost to each individual options platform), whereas MIAX Pearl Equites cannot share such cost and, therefore, bears the entire cost.

Monthly Depreciation

All physical assets and software, which also includes assets used for testing and monitoring of Exchange infrastructure, 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 are owned by the Exchange and some of which are leased by the Exchange in order to allow efficient periodic technology refreshes. As noted above, the Exchange allocated 73.6% of all depreciation costs to providing physical 10Gb ULL connectivity and 2.5% of all depreciation costs to providing 1Gb connectivity. The Exchange notes, however, that it did not allocate depreciation costs for any depreciated software necessary to operate the Exchange to physical connectivity, as

[107] This allocation may differ from MIAX Pearl Options due to the different amount of proprietary market data feeds the Exchange purchases for its options and equities trading platforms. For options, the Exchange primarily relies on data purchased from OPRA. For equities, the Exchange does not solely rely on data purchased from the consolidated tape plans (*e.g.,* Nasdaq UTP, CTA, and CQ plans), but rather purchases multiple proprietary market data feeds from other equities exchanges. *See, e.g.,* Exchange Rule 2613 (setting forth the data feeds the Exchange subscribes to for each equities exchange and trading center).

[108] This expense may be greater than the Exchange's affiliated markets, specifically MIAX and MIAX Emerald, because, unlike MIAX and MIAX Emerald, MIAX Pearl Equities and MIAX Pearl Options both maintain an additional gateway to accommodate their Members' and Equity Members' access and connectivity needs. This added gateway contributes to the difference in allocations between MIAX Pearl Equities and MIAX Pearl Options and MIAX and MIAX Emerald.

such software does not impact the provision of physical 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.

Lastly, the Exchange notes that this allocation is greater than its affiliate options exchanges by more than a *de minimis* amount as MIAX Pearl Equities allocated 73.6% of its Depreciation expense towards 10Gb ULL connectivity, while MIAX, MIAX Pearl Options and MIAX Emerald allocated 61.6%, 58.2% and 63.8%, respectively, to the same category of expense. This is due to MIAX Pearl Equities being a newer market and having newer physical assets and software subject to depreciation than its affiliate options exchanges. The Exchange's affiliate options exchanges are older markets that have more software and equipment that have been fully depreciated when compared to the newer software and hardware currently being depreciated by MIAX Pearl Equities at higher rates.

Allocated Shared Expenses

Finally, a limited portion of general shared expenses was allocated to overall physical connectivity costs as 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. The Exchange notes that the cost of paying directors to serve on its Board of Directors is also included in the Exchange's general shared expenses.[109] The Exchange notes that the 50% allocation of general shared expenses for physical connectivity is higher than that allocated to general shared expenses for FIX and 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 Centers, as described above), FIX and MEO Ports do not require as many broad or indirect resources as other Core Services. The total monthly cost for 10Gb ULL connectivity of $1,477,233 was divided by the number of physical 10Gb ULL connections the Exchange maintained at the time that proposed pricing was determined (90), to arrive at a cost of approximately $16,414 per month, per physical 10Gb ULL connection. The total monthly cost for 1Gb connectivity of $50,404 was divided by the number of physical 1Gb connections the Exchange maintained at the time that proposed pricing was determined (8), to arrive at a cost of approximately $6,301 per month, per physical 1Gb connection.

Costs Related to Offering FIX and MEO Ports

The following chart details the individual line-item costs considered by the Exchange to be related to offering FIX and 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 22.4% of its overall Human Resources cost to offering FIX and MEO Ports).

FIX PORTS

Cost drivers	Annual cost [110]	Monthly cost [111]	Percent of all
Human Resources	$665,726	$55,476	5.2
Connectivity (external fees, cabling, switches, etc.)	535	45	0.5
Internet Services, including External Market Data	11,574	965	0.5
Data Center	20,262	1,689	1.2
Hardware and Software Maintenance and Licenses	5,108	426	0.5
Depreciation	92,114	7,676	2.0
Allocated Shared Expenses	116,679	9,723	1.2
Total	911,998	76,000	2.8

MEO PORTS

Cost drivers	Annual cost [112]	Monthly cost [113]	Percent of all
Human Resources	$2,219,088	$184,924	17.2
Connectivity (external fees, cabling, switches, etc.)	1,782	149	1.5
Internet Services, including External Market Data	38,582	3,215	1.5
Data Center	67,538	5,628	3.8
Hardware and Software Maintenance and Licenses	17,026	1,419	1.5

[109] 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 its expenses at that granular a level. Instead, director costs are included as part of the overall general allocation.

[110] *See supra* note 102 (describing rounding of Annual Costs).

[111] *See supra* note 103 (describing rounding of Monthly Costs based on annual costs).

[112] *See supra* note 102 (describing rounding of Annual Costs). The Exchange notes that costs to provide MEO Ports are higher than the Exchange's costs to provide FIX Ports because it is more expensive to maintain and support the MEO network due to its high performance capabilities and supporting infrastructure (including employee support). The MEO interface is a customizable binary interface that the Exchange developed in-house and maintains on its own. The FIX interface is the industry standard for simple order entry, which requires less development, maintenance, and support than the MEO interface. The MEO interface provides best-in-class system throughput and capacity. Users of MEO Ports, which are primarily Equity Market Makers, consume the most bandwidth and resources of the network via MEO Ports. 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, resulting in greater cost to provide and maintain MEO ports.

[113] *See supra* note 103 (describing rounding of Monthly Costs based on annual costs).

MEO PORTS—Continued

Cost drivers	Annual cost [112]	Monthly cost [113]	Percent of all
Depreciation	307,048	25,587	6.6
Allocated Shared Expenses	388,931	32,411	4.0
Total	3,039,995	253,333	9.3

Human Resources

With respect to FIX and MEO Ports, the Exchange calculated Human Resources cost by taking an allocation of employee time for employees whose functions include providing FIX and 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 application sessions 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 application sessions and maintaining performance thereof. This includes personnel from the following Exchange departments that are predominately involved in providing FIX and MEO Ports: Business Systems Development, Trading Systems Development, Systems Operations and Network Monitoring, Network and Data Center Operations, Listings, Trading Operations, and Project Management. The Exchange notes that senior level executives were only allocated Human Resources costs to the extent the Exchange believed they are involved in overseeing tasks related to providing application sessions and maintaining performance thereof. 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.

Lastly, the Exchange notes that the Human Resource allocation for MEO Ports is greater than its Human Resource allocation for FIX Ports by more than a *de minimis* amount as MIAX Pearl Equities allocated 5.2% of its Human Resource expense towards FIX Ports and 17.2% of its Human Resource expense towards MEO Ports. This is because the MEO interface is a customized binary interface that the Exchange developed in-house and maintains on its own. The FIX interface is the industry standard for simple order entry which requires less development, maintenance, and support than the MEO interface. The MEO interface is performance oriented and designed to meet the needs of more latency sensitive Equity Members. Due to the in-house development of the MEO interface, the Exchange was required to expend more internal personnel to support the MEO interface than the FIX interface. Because of the materially higher cost associated with maintaining and supporting MEO Ports versus FIX Ports, the Exchange allocates a materially higher percentage of Human Resource expense to MEO Ports versus FIX Ports, which is a less complex, standardized solution.

Connectivity and Internet Services

The Connectivity cost includes external fees paid to connect to other exchanges, cabling and switches, as described above. For purposes of FIX and MEO Ports, the Exchange also includes a portion of its costs related to External Market Data, as described below.

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 as well as related costs (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).

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 included External Market Data fees to the provision of application sessions as such market data is also necessary here (in addition to physical connectivity) to offer certain services related to such sessions, such as validating orders on entry against the national best bid and national best offer and checking for other conditions (*e.g.,* whether a symbol is halted or subject to a short sale circuit breaker). This allocation was included as part of the internet Services cost described above.[114] Thus, as market data from other Exchanges is consumed at the application session 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 application sessions.

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.

Monthly Depreciation

All physical assets and software, which also includes assets used for testing and monitoring of order entry infrastructure, 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 8.6% of all depreciation costs to providing FIX and MEO Ports. In contrast to physical connectivity, described above, the Exchange did allocate depreciation costs for depreciated software necessary to operate the Exchange to FIX and MEO Ports because such software is related to

[114] This allocation may differ from MIAX Pearl Options due to the different amount of proprietary market data feeds the Exchange purchases for its options and equities trading platforms. MIAX Pearl Options primarily relies on data purchased from OPRA. MIAX Pearl Equities does not solely rely on data purchased from the consolidated tape plans (*e.g.,* Nasdaq UTP, CTA, and CQ plans), but rather purchases multiple proprietary market data feeds from other equities exchanges. *See, e.g.,* Exchange Rule 2613 (setting forth the data feeds the Exchange subscribes to for each equities exchange and trading center). The Exchange separately notes that MEMX separately allocated 7.5% of its external market data costs to providing physical connectivity.

the provision of such 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.

Lastly, the Exchange notes that the Depreciation allocation for MEO Ports is greater than the Depreciation allocation for FIX Ports by more than a *de minimis* amount as MIAX Pearl Equities allocated 2.00% of its Depreciation expense towards FIX Ports and 6.60% of its Depreciation expense towards MEO Ports. As discussed above, this is because the MEO interface is a customized binary interface that the Exchange developed in-house and maintains on its own. The FIX interface is the industry standard for simple order entry which requires less development, maintenance, and support than the MEO interface. The Exchange maintains more dedicated hardware per port for the MEO interface compared to the FIX interface; MEO Ports sit on their own core server, whereas for the FIX interface, three (3) to five (5) connections may go onto a single server. As a result, the MEO interface is supported by more dedicated in-house hardware and software than the FIX interface that is subject to depreciation. Thus, there is a greater amount of equipment supporting the MEO interface than the FIX interface, resulting in higher depreciation costs than the FIX interface.

Allocated Shared Expenses

Finally, a limited portion of general shared expenses was allocated to overall FIX and 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 20% of the overall cost for directors was allocated to providing FIX and MEO Ports. The Exchange notes that the 5.2% allocation of general shared expenses for FIX and 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 FIX and MEO Ports have several areas where certain tangible costs are heavily weighted towards providing such service (*e.g.,* Data Centers, as described above), 1Gb and 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. The total monthly cost for FIX Ports of $76,000 was divided by the number of FIX Ports the Exchange maintained at the time that proposed pricing was determined (142), to arrive at a cost of approximately $535 per month, per FIX Port (rounded to the nearest dollar when dividing the approximate monthly cost by the number of FIX Ports). The total monthly cost for MEO Ports of $253,333 was divided by the number of MEO Ports the Exchange maintained at the time that proposed pricing was determined (336), to arrive at a cost of approximately $754 per month, per MEO Port (rounded to the nearest dollar when dividing the approximate monthly cost by the number of MEO Ports).

Lastly, the Exchange notes that the Allocated Shared Expense allocation for MEO Ports is greater than the same allocation for FIX Ports by more than a *de minimis* amount as MIAX Pearl Equities allocated 1.20% of its Allocated Shared Expense towards FIX Ports and 4.00% of its Allocated Shared Expense towards MEO Ports. As discussed above, this is because the MEO interface is a customized binary interface that the Exchange developed in-house and maintains on its own. The FIX interface is the industry standard for simple order entry which requires less development, maintenance, and support than the MEO interface. The MEO interface is performance oriented and designed to meet the needs of more latency sensitive Equity Members. This required more internal personnel and resources to support than the FIX interface. Because of the materially higher cost associated with maintaining and supporting MEO Ports versus FIX Ports, the Exchange allocates a materially higher percentage of Allocated Shared expense to MEO Ports versus FIX Ports.

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 FIX and 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 (60%) to 1Gb and 10Gb ULL connectivity given their focus on functions necessary to provide physical connections. The salaries of those same personnel were allocated only 25% to FIX and MEO Ports and the remaining 15% was allocated to transactions 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 37% for 1Gb and 10Gb ULL connectivity 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 (less than 21%) across a wider range of personnel groups in order to allocate Human Resources costs to providing FIX and MEO Ports. This is because a much wider range of personnel are involved in functions necessary to offer, monitor and maintain FIX and MEO Ports but the tasks necessary to do so are not a primary or full-time function.

In total, the Exchange allocated 47.6% of its personnel costs to providing physical connections and 22.4% of its personnel costs to providing FIX and MEO Ports, for a total allocation of 70% Human Resources expense to provide these specific connectivity services. In turn, the Exchange allocated the remaining 30% of its Human Resources expense to membership (less than 1%) and transactions and market data (9.5%). 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 FIX and 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 Equity Members and non-Equity 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 85% of the Exchange's overall depreciation and amortization expense to connectivity services (76.185% attributed to 1Gb and 10Gb ULL physical connections and 8.6% to FIX and MEO Ports). The Exchange allocated the remaining depreciation and amortization expense (approximately 15%) toward the cost of providing transaction services, membership 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 FIX and 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 such costs will either decrease or increase. 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 would 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, 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, the Exchange believes 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

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 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 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 at $17,726,799. Based on current 10Gb ULL connectivity services usage, the Exchange would generate annual revenue of approximately $9,144,000. This represents a negative margin when compared to the cost of providing 10Gb ULL connectivity services, which will decrease over time.[115]
- The Exchange's Cost Analysis estimates the annual cost to provide 1Gb connectivity services at $604,851. Based on current 1Gb connectivity services usage, the Exchange would generate annual revenue of approximately $312,000. This represents a negative margin when compared to the cost of providing 1Gb connectivity services, which will decrease over time.[116]
- The Exchange's Cost Analysis estimates the annual cost to provide FIX Port services at $911,998. Based on current FIX Port services usage, the Exchange would generate annual revenue of approximately $388,800. This represents a negative margin when compared to the cost of providing FIX Port services, which will decrease over time.[117]
- The Exchange's Cost Analysis estimates the annual cost to provide MEO Port services at $3,039,995. Based on current MEO Port services usage, the Exchange would generate annual revenue of approximately $1,296,000. This represents a negative margin when compared to the cost of providing MEO Port services, which will decrease over time.[118]

Even if the Exchange earns those amounts or incrementally more, the Exchange believes the proposed fees are

[115] 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 April 18, 2023).

[116] *Id.*

[117] *Id.*

[118] *Id.*

fair and reasonable because they will not result in excessive pricing that deviates from that of other exchanges or supra-competitive profit, when comparing the total expense of the Exchange associated with providing 1Gb and 10Gb ULL connectivity and FIX and MEO Port services versus the total projected revenue of the Exchange associated with those services. In fact, the Exchange will generate negative margins on those connectivity and port services even with the proposed fees.

* * * * *

MIAX Pearl Equities has operated at a cumulative net annual loss since it launched operations in 2020.[119] The Exchange has operated at a net loss due to a number of factors, one of which is choosing to forgo revenue by offering certain products, such as connectivity, at lower rates than other 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 should not now be penalized for seeking to raise its fees in light of necessary technology changes and its increased costs after offering such products as discounted prices. Therefore, the Exchange believes the proposed fees are reasonable because they are based on both relative costs to the Exchange to provide dedicated 1Gb and 10Gb ULL connectivity as well as FIX and 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 1Gb and 10Gb ULL connectivity as well as FIX and MEO Ports.

The Exchange notes that its revenue estimate is based on projections and will only be realized to the extent customer activity actually 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 1Gb and 10Gb ULL connectivity as well as FIX and MEO Ports, the Exchange will have to be successful in retaining existing clients that wish to utilize 1Gb and 10Gb ULL connectivity as well as FIX and MEO Ports and/or obtaining new clients that will purchase such access. To the extent the Exchange is successful in encouraging new clients, the Exchange does not believe it should be penalized for such success. To the extent the Exchange has mispriced and experiences a net loss in clients, the Exchange could experience a net reduction in revenue. While the Exchange believes in transparency around costs and potential revenue, 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.

The Exchange is part of a holding company that operates 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 can 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 associated with shared costs across multiple platforms. The Exchange and its affiliated markets must share a single cost, which results in cost efficiencies that cause a broader gap between the allocated cost amount and projected revenue, even though the fee levels being proposed are lower or similar to 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 Commission Staff must consider whether the proposed fee level is comparable to, or on parity 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. If it is the case that the Commission Staff is making determinations as to appropriate profit margins, the Exchange believes that Staff should be clear to all market participants as to what they determine 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, the proposal reflects the Exchange's efforts to control its costs, which the Exchange does on an ongoing basis as a matter of good business practice. A potential profit margin should not be judged alone based on its size, but is also indicative of costs 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 where 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.

1Gb and 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 equities 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

[119] The Exchange has incurred a cumulative loss of $79 million since its inception in 2020. *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.*

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.[120] 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.

FIX and MEO Ports

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. 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.[121] Thus, as the number of connections an Equity Member has increases, the related pull on Exchange resources also increases. The Exchange sought to design the proposed pricing structure to set the amount of the fees to relate to the number of connections a firm purchases, while continuing to provide the first five (5) ports for free. The more connections purchased by an Equity Member 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 Equity Member their first five (5) ports for free, unlike other equity exchanges referenced above.

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 1Gb and10Gb ULL connectivity as well as FIX and MEO Ports at below market rates to market participants since the Exchange launched operations. As described above, the Exchange has operated at a cumulative net annual loss since it launched operations in 2020[122] 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 industry, which resulted in lower initial revenues. Examples of this are 1Gb and 10Gb ULL connectivity as well as FIX and MEO Ports, for which the Exchange only now seeks to adopt fees at a level similar to or lower than those of other equity exchanges.

Further, the Exchange does not believe that the proposed fee increase for the 1Gb or 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. The proposed fees would apply uniformly to all market participants regardless of the number of connections they choose to purchase. The proposed fees do 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 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 Equity Members, non-Equity 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 MIAX Pearl Options membership on January 1, 2023 as a direct result of the proposed fee changes for that market.[123] 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

[120] 17 CFR 240.17a–1 (recordkeeping rule for national securities exchanges, national securities associations, registered clearing agencies and the Municipal Securities Rulemaking Board).

[121] 17 CFR 240.17a–1 (recordkeeping rule for national securities exchanges, national securities associations, registered clearing agencies and the Municipal Securities Rulemaking Board).

[122] *See supra* note 119.

[123] 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 53. 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. In addition, despite the potential for existing subscribers to terminate connections due to the proposal, the Exchange anticipates its number of subscribers to remain generally static, resulting in an immaterial difference between a best case and worst case scenario.

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 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, market participants are not forced to connect to all exchanges. There is no reason to believe that our proposed price increase will harm another exchange's ability to compete. There are other markets of which market participants may connect to trade equities 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.

* * * * *

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-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 and one comment letter on the Second Proposal from the same commenter.[124] 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 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.

[124] *See* letter from Brian Sopinsky, General Counsel, Susquehanna International Group, LLP (''SIG''), to Vanessa Countryman, Secretary, Commission, dated February 7, 2023 *and* letter from Gerald D. O'Connell, SIG, to Vanessa Countryman, Secretary, Commission, dated March 21, 2023.

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,[125] and Rule 19b–4(f)(2) [126] 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–2023–18 on the subject line.

Paper Comments

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

All submissions should refer to File Number SR–PEARL–2023–18. 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

[125] 15 U.S.C. 78s(b)(3)(A)(ii).

[126] 17 CFR 240.19b–4(f)(2).

Reference Room, 100 F Street NE, Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. 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–2023–18 and should be submitted on or before May 30, 2023.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.[127]

Sherry R. Haywood,

Assistant Secretary.

[FR Doc. 2023–09679 Filed 5–5–23; 8:45 am]

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[127] 17 CFR 200.30–3(a)(12).

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–97422; File No. SR–EMERALD–2023–12]

Self-Regulatory Organizations; MIAX Emerald, LLC; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by MIAX Emerald, LLC To Amend the Fee Schedule To Modify Certain Connectivity and Port Fees

May 2, 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 April 20, 2023, MIAX Emerald, LLC (''MIAX Emerald'' 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 Emerald Fee Schedule (the ''Fee Schedule'') to amend certain connectivity and port fees.

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

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

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

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

1. Purpose

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[3] and non-Members; and (2) adopt a tiered-pricing structure for Limited Service MIAX Emerald Express Interface (''MEI'') Ports[4] available to Market Makers.[5] The Exchange last increased the fees for both 10Gb ULL fiber connections and Limited Service MEI Ports beginning with a series of filings on October 1, 2020 (with the final filing made on March 24, 2021).[6] Prior to that fee change, the Exchange provided Limited Service MEI Ports for $50 per port, after the first two Limited Service MEI Ports that are provided free of charge, and the Exchange incurred all the costs associated to provide those first two Limited Service MEI Ports since it commenced operations in March 2019. The Exchange then increased the fee by $50 to a modest $100 fee per Limited Service MEI Port and increased the fee for 10Gb ULL fiber connections from $6,000 to $10,000 per month.

Also, in that fee change, the Exchange adopted fees for providing five different types of ports for the first time. These ports were FIX Ports, MEI Ports, Clearing Trade Drop Ports, FIX Drop Copy Ports, and Purge Ports.[7] Again, the Exchange absorbed all costs associated with providing these ports since its launch in March 2019. As explained in that filing, expenditures, as well as research and development (''R&D'') in numerous areas resulted in a material increase in expense to the Exchange and were the primary drivers for that proposed fee change. In that filing, the Exchange allocated a total of $9.3 million in expenses to providing 10Gb ULL fiber connectivity, additional Limited Service MEI Ports, FIX Ports, MEI Ports, Clearing Trade Drop Ports, FIX Drop Copy Ports, and Purge Ports.[8]

Since the time of 2021 increase discussed above, the Exchange experienced ongoing increases in expenses, particularly internal expenses.[9] As discussed more fully below, the Exchange recently calculated increased annual aggregate costs of $11,361,586 for providing 10Gb ULL connectivity and $1,779,066 for providing Limited Service MEI Ports.

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

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

[2] 17 CFR 240.19b–4.

[3] 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.

[4] The MIAX Emerald Express Interface (''MEI'') is a connection to the MIAX Emerald System that enables Market Makers to submit simple and complex electronic quotes to MIAX Emerald. *See* the Definitions Section of the Fee Schedule.

[5] The term ''Market Makers'' refers to Lead Market Makers (''LMMs''), Primary Lead Market Makers (''PLMMs''), and Registered Market Makers (''RMMs'') collectively. *See* the Definitions Section of the Fee Schedule and Exchange Rule 100.

[6] *See* Securities Exchange Act Release Nos. 91460 (April 1, 2021), 86 FR 18349 (April 8, 2021) (SR–EMERALD–2021–11); 90184 (October 14, 2020), 85 FR 66636 (October 20, 2020) (SR–EMERALD–2020–12); 90600 (December 8, 2020), 85 FR 80831 (December 14, 2020) (SR–EMERALD–2020–17); 91032 (February 1, 2021), 86 FR 8428 (February 5, 2021) (SR–EMERALD–2021–02); *and* 91200 (February 24, 2021), 86 FR 12221 (March 2, 2021) (SR–EMERALD–2021–07).

[7] *See id.* for a description of each of these ports.

[8] *Id.*

[9] 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.