

Required fields are shown with yellow backgrounds and asterisks.

Filing by MIAX PEARL, LLC
 Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

Initial * <input checked="" type="checkbox"/>	Amendment * <input type="checkbox"/>	Withdrawal <input type="checkbox"/>	Section 19(b)(2) * <input type="checkbox"/>	Section 19(b)(3)(A) * <input checked="" type="checkbox"/>	Section 19(b)(3)(B) * <input type="checkbox"/>
Pilot <input type="checkbox"/>			Rule		
Extension of Time Period for Commission Action * <input type="checkbox"/>		Date Expires * <input type="text"/>	<input type="checkbox"/> 19b-4(f)(1)	<input type="checkbox"/> 19b-4(f)(4)	
			<input checked="" type="checkbox"/> 19b-4(f)(2)	<input type="checkbox"/> 19b-4(f)(5)	
			<input type="checkbox"/> 19b-4(f)(3)	<input type="checkbox"/> 19b-4(f)(6)	

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010	Security-Based Swap Submission pursuant to the Securities Exchange Act of 1934
Section 806(e)(1) * <input type="checkbox"/>	Section 806(e)(2) * <input type="checkbox"/>
	Section 3C(b)(2) * <input type="checkbox"/>

Exhibit 2 Sent As Paper Document <input type="checkbox"/>	Exhibit 3 Sent As Paper Document <input type="checkbox"/>
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Description
 Provide a brief description of the action (limit 250 characters, required when Initial is checked *).
 Proposal to amend the MIAX PEARL Equities Fee Schedule to adopt certain non-transaction fees.

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

First Name * Chris Last Name * Solgan
 Title * Vice President, Senior Counsel
 E-mail * csolgan@miami-holdings.com
 Telephone * (609) 897-8494 Fax

Signature
 Pursuant to the requirements of the Securities Exchange Act of 1934,
 has duly caused this filing to be signed on its behalf by the undersigned thereunto duly authorized.
 (Title *)
 Date 01/29/2021 Vice President, Senior Counsel
 By Chris Soglan csolgan@miami-holdings.com
 (Name *)

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

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

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

Form 19b-4 Information *

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

Exhibit 1 - Notice of Proposed Rule Change *

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

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

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

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

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Exhibit Sent As Paper Document

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

Exhibit 3 - Form, Report, or Questionnaire

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Exhibit Sent As Paper Document

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

Exhibit 4 - Marked Copies

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

Exhibit 5 - Proposed Rule Text

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

Partial Amendment

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

1. Text of the Proposed Rule Change

(a) MIAX PEARL, LLC (“MIAX PEARL” or the “Exchange”), pursuant to the provisions of Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)¹ and Rule 19b-4 thereunder,² proposes to amend the MIAX PEARL Equities Fee Schedule (the “Fee Schedule”) by adopting fees applicable to participants trading equity securities on and/or using services provided by MIAX PEARL Equities.³

A notice of the proposed rule change for publication in the Federal Register is attached hereto as Exhibit 1, and a copy of the applicable section of the proposed Fee Schedule is attached hereto as Exhibit 5.

(b) Not applicable.

(c) Not applicable.

2. Procedures of the Self-Regulatory Organization

The proposed rule change was approved by the Chief Executive Officer of the Exchange or his designee pursuant to authority delegated by the MIAX PEARL Board of Directors on January 28, 2021. Exchange staff will advise the Board of Directors of any action taken pursuant to delegated authority. No other action by the Exchange is necessary for the filing of the proposed rule change.

Questions and comments on the proposed rule change may be directed to Chris Solgan, Vice President and Senior Counsel, at 609-423-9414.

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

³ See Exchange Rule 1901. The Exchange notes that it submitted a separate filing with the Commission pursuant to Section 19(b)(3)(A) of the Act to establish the Fee Schedule and adopt transaction fees. See Securities Exchange Act Release No. 90102 (October 6, 2020), 85 FR 64559 (October 13, 2020) (SR-PEARL-2020-17).

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

a. Purpose

On August 14, 2020, the Commission approved the Exchange's proposal to adopt rules governing the trading of equity securities, referred to as MIAX PEARL Equities.⁴ The Exchange launched MIAX PEARL Equities on September 25, 2020. The Exchange proposes to adopt a Definitions section in the Fee Schedule, as well as the following fees: (1) connectivity fees for Equity Members⁵ and non-Members; (2) Port fees (together with the proposed connectivity fees, the "Proposed Access Fees"); (3) a Technical Support Request fee; and (4) a fee for Historical Market Data (collectively, the "Proposed Fees").

The Exchange initially filed the proposal on September 24, 2020.⁶ The Exchange withdrew the First Proposed Rule Change on October 5, 2020 and submitted SR-PEARL-2020-19 ("Second Proposed Rule Change").⁷ The Second Proposed Rule Change was published for comment in the Federal Register on October 20, 2020⁸ and no comment letters were received. The Exchange withdrew the Second Proposed Rule Change⁹ and submitted SR-PEARL-2020-33

⁴ See Securities Exchange Act Release No. 89563 (August 14, 2020), 85 FR 51510 (August 20, 2020) (SR-PEARL-2020-03) (Order Approving a Proposed Rule Change, as Modified by Amendment No. 1, To Establish Rules Governing the Trading of Equity Securities) ("Approval Order").

⁵ The term "Equity Member" means a Member authorized by the Exchange to transact business on MIAX PEARL Equities. See Exchange Rule 1901.

⁶ The Exchange initially filed the proposed fee changes on September 24, 2020 (SR-PEARL-2020-18). See SR-PEARL-2020-18 (the "First Proposed Rule Change").

⁷ See Securities Exchange Act Release No. 90186 (October 14, 2020), 85 FR 66656 (October 20, 2020).

⁸ See *id.*

⁹ See letter from Chris Solgan, VP, Senior Counsel, the Exchange, dated November 20, 2020, notifying the Commission that the Exchange would withdraw SR-PEARL-2020-19.

(“Third Proposed Rule Change”).¹⁰ The Third Proposed Rule Change was published in the Federal Register on December 17, 2020 and no comment letters were received. The Exchange withdrew the Third Proposed Rule Change¹¹ and now replaces it with this filing to provide further clarification regarding the Exchange’s cost justification analysis for the Proposed Fees.¹²

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 requirements of the Act that fees be reasonable, equitably allocated, not unfairly discriminatory, and not create an undue burden on competition among members and markets. The Exchange believes this high standard is especially important when an exchange imposes various access fees on market participants to access an exchange’s marketplace, as well as other non-transaction fees. MIA X PEARL deems Port fees and Connectivity fees to be access fees, and that Ports and Connectivity are inextricably linked components of the Exchange’s network. Accordingly, the Exchange believes that it is reasonable and appropriate that the costs and revenues for both should be considered together, as the services associated with connectivity and ports are linked pieces of the network’s infrastructure, both of which are necessary for a market participant to access and use the trading System of the Exchange. Both Connectivity fee and Port fee revenue are consolidated into a single line item (Access Fees) on the Exchange’s financial statements.

The Exchange believes that it is important to demonstrate that the Proposed Fees are based on its

¹⁰ See Securities Exchange Act Release No. 90651 (December 11, 2020), 85 FR 81971 (December 17, 2020).

¹¹ See letter from Joseph W. Ferraro, SVP, Deputy General Counsel, the Exchange, dated January 15, 2021, notifying the Commission that the Exchange would withdraw SR-PEARL-2020-33.

¹² In this filing, the Exchange also corrects an error in the earlier filings by replacing references to the term “Priority Purge Ports” with simply “Purge Ports.”

costs to provide the services associated with the Proposed Fees and reasonable business needs. Accordingly, the Exchange believes the Proposed Fees, in general, and the Proposed Access Fees, in particular, will allow the Exchange to offset a portion of the expenses the Exchange has and will incur, and that the Exchange has provided sufficient transparency (as described below) into how the Exchange determined to charge such fees. Accordingly, the Exchange is providing an analysis of its revenues, costs, and profitability associated with the Proposed Access Fees. This analysis includes information regarding its methodology for determining the costs and revenues associated with the Proposed Access Fees.

Definitions

The Exchange proposes to include a Definitions section at the beginning of the Fee Schedule, before the General Notes section. The purpose of the Definitions section is to provide market participants greater clarity and transparency regarding the applicability of fees and rebates by defining terms used within the Fee Schedule in a single location. The Exchange notes that other equities exchanges include Definitions sections in their respective fee schedules,¹³ and the Exchange believes that including a Definitions section in the front of the Fee Schedule makes the Fee Schedule more user-friendly and makes the Fee Schedule more comprehensive.

Unless included in the Definition section, capitalized terms used in the Fee Schedule are defined in the MIAX PEARL Equities Rules. Each of the definitions proposed to be included in the Fee Schedule are based on definitions included in the existing MIAX PEARL fee schedule

¹³ See Cboe BZX Exchange, Inc. Fee Schedule, Definitions section; Cboe BYX Exchange, Inc., Definitions section; Cboe EDGA Exchange, Inc., Definitions section; Cboe EDGX Exchange, Inc., Definitions section.

applicable to options (“Options Fee Schedule”)¹⁴ or those of another exchange. In particular, the Exchange propose to offer and define ports and interfaces that provide connectivity to MIAX PEARL Equities. The Exchange notes that each of these offerings are not novel or unique, are available on other equity exchanges, and are currently offered by the Exchange for options trading and provided for in the Exchange’s Options Fee Schedule. The Exchange proposes to define the following terms in the Fee Schedule:

- “Cross-connect” occurs when the affected third-party system is sited at the same data center where MIAX PEARL Equities systems are sited, and the third-party connects to MIAX PEARL Equities through the data center, rather than connecting directly to MIAX PEARL Equities outside of the data center.
- “Exchange System Disruption” means an outage of a Matching Engine or collective Matching Engines for a period of two consecutive hours or more, during trading hours.
- “Extranet Provider” means a technology provider that connects with MIAX PEARL Equities systems and in turn provides such connectivity to MIAX PEARL Equities participants that do not connect directly with MIAX PEARL Equities.
- “FIX Order by Order” means a type of FXD Port that sends all order activities other than reject message, including Execution Reports and Trade Cancel/Correct messages. FIX Order by Order is currently offered by the Exchange for options trading and provided for in the Exchange’s Options Fee Schedule.
- “FIX Order Interface” or “FOI” means the Financial Information Exchange interface for

¹⁴ See the Options Fee Schedule available at https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_PEARL_Fee_Schedule_11052020.pdf

certain order types as set forth in Exchange Rule 2614. FOI is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.

- “FIX Port” means a FIX port that allows Equity Members to send orders and other messages using the FIX protocol. FIX is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “Full Service Port” or “FSP” means an MEO port that supports all MEO order input message types. FSP is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “FIX Drop Port” or “FXD” means a messaging interface that provides real-time order activities of firms' MEO and FOI orders. MIAX PEARL Equities offers two types of FXD ports: (1) Standard FIX Drop; and (2) FIX Order by Order Drop. FXD Ports may be used by Equities Market Makers, Order Entry Firms and clearing firms. FXD is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “MENI” means the MIAX Express Network Interconnect, which is a network infrastructure which provides Equity Members and non-Members network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facilities of the Exchange. The MENI consists of the low latency and ultra-low latency (“ULL”) connectivity options set forth in the Exchange's Fee Schedule. MENI is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “MEO Interface” or “MEO” means a binary order interface for certain order types as set forth in Rule 516 into the MIAX PEARL System. See Exchange Rule 100.

- “Service Bureau” means a technology provider that offers and supplies technology and technology services to a trading firm that does not have its own proprietary system.
- “Standard FIX Drop” means an FXD Port that only sends trade information, including Execution Reports and Trade Cancel/Correct messages. Standard FIX Drop is currently offered by the Exchange for options trading and provided for in the Exchange’s Options Fee Schedule.
- “Third Party Vendor” means a subscriber of MIAX PEARL Equities’ market and other data feeds, which they in turn use for redistribution purposes.
- “Waiver Period” means, for each applicable fee, the period of time from the initial effective date of the MIAX PEARL Equities Fee Schedule until such time that MIAX PEARL has an effective fee filing establishing the applicable fee. MIAX PEARL Equities will issue a Regulatory Circular announcing the establishment of an applicable fee that was subject to a Waiver Period at least fifteen (15) days prior to the termination of the Waiver Period and effective date of any such applicable fee.

Proposed Access Fees

To provide market participants with a better understanding of how the Exchange has established the levels of the Proposed Access Fees, the Exchange is providing information in this proposal regarding the costs incurred by the Exchange to provide services associated with the Proposed Access Fees, including the Exchange’s cost allocation methodology (information that explains the Exchange’s rationale for determining that it was reasonable to allocate certain expenses described in this filing towards the total cost to the Exchange to provide the services associated with the Proposed Access Fees). The Exchange is also providing an analysis of its expected revenues and profitability for the services associated with the Proposed Access Fees.

In order to determine the Exchange's costs for providing the services associated with the Proposed Access Fees, the Exchange conducted an extensive review in which the Exchange analyzed every expense item in the Exchange's general expense ledger to determine whether each such expense relates to the services associated with the Proposed Access Fees, and, if such expense did so relate, what portion (or percentage) of such expense actually supports those services. The sum of all such portions of expenses represents the total cost of the Exchange to provide the services associated with the Proposed Access Fees. For the avoidance of doubt, no expense amount was allocated twice. The Exchange is also providing detailed information regarding the Exchange's cost allocation methodology – namely, information that explains the Exchange's rationale for determining that it was reasonable to allocate certain expenses described in this filing towards the total cost to the Exchange to provide the Proposed Access Fees.

Since MIAX PEARL Equities did not exist in 2019 (operations only just launched on September 25, 2020), the Exchange's most recent publicly available financial statement (2019 Audited Unconsolidated Financial Statement) is not an accurate reflection of the total annual costs associated with the development and operation of MIAX PEARL Equities. Accordingly, the Exchange believes it is more appropriate to justify its fees using cost figures that are isolated specifically for MIAX PEARL Equities on an annualized basis, and, utilizing a recent monthly billing cycle representative of 2020 monthly revenue, extrapolated annualized revenue on a going-forward basis. The Exchange does not believe it is appropriate to factor into its analysis future revenue growth or decline into its projections for purposes of these calculations, given the uncertainty of such projections due to the continually changing access needs of market participants, discounts that can be achieved through reaching certain tiers, uncertainty relating to

the timing of the expiration of certain fee waivers, uncertainty relating to the actual fee amounts to be established upon expiration of said fee waivers, market participant consolidation, etc. Additionally, the Exchange similarly does not factor into its analysis future cost growth or decline. The purpose of presenting it in this manner is to provide greater transparency into the Exchange's actual and expected revenues, costs, and profitability associated with providing the services associated with the Proposed Access Fees. Based on this analysis, the Exchange believes that the Proposed Access Fees are fair and reasonable because they will permit recovery of less than all of the Exchange's costs for providing the services associated with the Proposed Access Fees and will not result in excessive pricing or supra-competitive profit when comparing the Exchange's total annual expense associated with providing the services associated with the Proposed Access Fees versus the total projected annual revenue the Exchange will collect for providing those services.

Connectivity Fees

Specifically, proposed Sections 2a) and b) of the Fee Schedule describe network connectivity fees for the 1 Gigabit ("Gb") ultra-low latency ("ULL") fiber connection and the 10Gb ULL fiber connection, which are to be charged to both Equity Members and non-Members of MIAX PEARL Equities for connectivity to the Exchange's primary/secondary facility. The Exchange also proposes to adopt network connectivity fees for the 1Gb ULL and 10Gb ULL fiber connections for connectivity to the Exchange's disaster recovery facility.

The Exchange will offer to both Equity Members and non-Members various bandwidth alternatives for connectivity to MIAX PEARL Equities, to its primary and secondary facilities, which consists of a 1Gb ULL fiber connection and a 10Gb ULL fiber connection. The Exchange also offers to both Equity Members and non-Members various bandwidth alternatives for

connectivity to the disaster recovery facility of MIAX PEARL Equities, which consists of a 1Gb ULL fiber connection and a 10Gb ULL connection.

The Exchange proposes to establish the monthly network connectivity fees for such connections for both Equity Members and non-Members. The Exchange proposes to adopt the following fees for connectivity to MIAX PEARL Equities' primary/secondary facility for both Equity Members and non-Members: (a) \$1,000 for the 1Gb ULL connection; and (b) \$3,500 for the 10Gb ULL connection. The Exchange proposes to adopt the following fees for connectivity to MIAX PEARL Equities' disaster recovery facility for both Equity Members and non-Members: (a) \$1,000 for the 1Gb ULL connection; and (b) \$3,000 for the 10Gb ULL connection.

Monthly network connectivity fees for Equity Members and non-Members for connectivity with the primary/secondary facility will be assessed in any month the Equity Member or non-Members is credentialed to use any of the MIAX PEARL Equities Application Programming Interfaces ("APIs") or market data feeds in the production environment and will be pro-rated when an Equity Member or non-Member makes a change to the connectivity (by adding or deleting connections) with such pro-rated fees based on the number of trading days that the Equity Member or non-Member has been credentialed to utilize any of the MIAX PEARL Equities' APIs or market data feeds in the production environment through such connection, divided by the total number of trading days in such month multiplied by the applicable monthly rate. Monthly network connectivity fees for Equity Members and non-Members for connectivity to the Disaster Recovery Facility will be assessed in each month during which the Equity Member or non-Member has established connectivity to the Disaster Recovery Facility.

Proposed Section 2)c) of the Fee Schedule, Pass-Through of External Connectivity Fees, provides for the pass through of external connectivity fees (described below) to Equity Members and non-Members that establish connections with MIAX PEARL Equities through a third-party. Fees assessed to MIAX PEARL Equities by third-party external vendors on behalf of an Equity Member or non-Member connecting to MIAX PEARL Equities (including cross-connects), will be passed through to the Equity Member or non-Member. The external connectivity fees passed through can include one-time set-up fees, monthly charges, and other fees charged to MIAX PEARL Equities by a third-party for the benefit of an Equity Member or non-Member.

Port Fees

Proposed Section 2)d), Port Fees, of the Fee Schedule describes fees for access and services used by Equity Members and non-Members. MIAX PEARL Equities provides three Port types: (i) the Financial Information Exchange Port (“FIX Port”), which allows Equity Members to send orders and other messages using the FIX protocol;¹⁵ (ii) the MIAX Express Orders Interface (“MEO Port”), which allows Equity Members order entry capabilities to all MIAX PEARL Equities Matching Engines¹⁶; and (iii) the FIX Drop Port (“FXD Port”), which provides real-time order activities firms’ MEO and FOI orders. MIAX PEARL Equities offers

¹⁵ “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.

¹⁶ 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. Purge Ports are described in Exchange Rule 2618(a)(7)(b).

two types of FXD ports: (1) Standard FIX Drop¹⁷; and (2) FIX Order by Order.¹⁸ FXD Ports may be used by Equities Market Makers¹⁹, Order Entry Firms²⁰ and clearing firms.

The Exchange proposes to assess monthly Port fees to Equity Members in each month the Equity Member is credentialed to use a Port in the production environment. MIAx PEARL Equities has primary and secondary data centers and a disaster recovery center. Each Port provides access to all Exchange data centers for a single fee. The Exchange notes that, unless otherwise specifically set forth in the Fee Schedule, the Port fees include the information communicated through the Port. That is, unless otherwise specifically set forth in the Fee Schedule, there is no additional charge for the information that is communicated through the Port apart from what the user is assessed for each Port. The Exchange proposes to assess Port Fees for FIX Ports, MEO Ports, and FXD Ports as set forth in the following table:

Type of Port	Monthly Port Fees Includes Connectivity to the Primary, Secondary and Disaster Recovery Data Centers
FIX Port [^]	Per Port: 1 st – 5 th Fee Waived for the Waiver Period 6 th – 10 th Fee Waived for the Waiver Period 11 th – 25 th Fee Waived for the Waiver Period 26 th – 50 th \$450 51 st – 75 th \$400 76 th – 100 th \$350 101 st or more \$300

¹⁷ “Standard FIX Drop” means an FXD Port that only sends trade information, including Execution Reports and Trade Cancel/Correct messages. See the Definitions section of the Fee Schedule.

¹⁸ “FIX Order by Order” means a type of FXD Port that sends all order activities other than reject message, including Execution Reports and Trade Cancel/Correct messages. See the Definitions section of the Fee Schedule.

¹⁹ The term “Equities Market Maker” shall mean an Equity Member that acts as a Market Maker in equity securities, pursuant to Chapter XXVI. See Exchange Rule 1901.

²⁰ The term “Equities Order Entry Firm”, “Order Entry Firm”, or “OEF”, shall mean those Equity Members representing orders as agent on MIAx PEARL Equities and those non-Equity Market Maker Members conducting proprietary trading. See Exchange Rule 1901.

MEO Port ^{^*}	Per Port: 1 st – 5 th Fee Waived for the Waiver Period 6 th – 10 th Fee Waived for the Waiver Period 11 th – 25 th Fee Waived for the Waiver Period 26 th – 50 th \$450 51 st – 75 th \$400 76 th – 100 th \$350 101 st or more \$300
FXD Port [^]	Fee Waived for the Waiver Period

[^] Each port will have access to all Matching Engines.

^{*} The rates set forth above for MEO Ports entitle an Equity Member to one (1) FSP and one (1) Purge Port²¹ for all Matching Engines for a single port fee.

- MEO and FIX Ports are counted separately for the tiers in the table.

The Exchange proposes to waive the fee for the 1st through the 25th FIX Ports and MEO Ports that Equity Members are credentialed to use, as well as the fees for all FXD Ports, for the Waiver Period.²² For all Port fees that the Exchange initially proposes to be subject to the Waiver Period, the Exchange will submit a rule filing to the Commission to establish the fee amount and any related requirements, and provide notice to terminate the applicable Waiver Period. Even though most of the Port fees are waived during the Waiver Period, the Exchange believes that is appropriate to provide market participants with the overall structure of the fee by outlining the structure on the Fee Schedule without setting forth a specific fee amount in certain areas, so that there is general awareness that the Exchange intends to assess such a fee in the future, should the Waiver Period terminate and the Exchange establish an applicable fee.

²¹ Purge Ports are described in Exchange Rule 2618(a)(7)(b).

²² “Waiver Period” means, for each applicable fee, the period of time from the initial effective date of the MIAX PEARL Equities Fee Schedule until such time that MIAX PEARL has an effective fee filing establishing the applicable fee. MIAX PEARL Equities will issue a Regulatory Circular announcing the establishment of an applicable fee that was subject to a Waiver Period at least fifteen (15) days prior to the termination of the Waiver Period and effective date of any such applicable fee. See the Definitions section of the Fee Schedule.

Equity Member and Non-Member Technical Support Request Fee

Proposed Section 2)e), Member and Non-Member Technical Support Request Fee, of the Fee Schedule describes the technical support request fee to be charged to both Equity Members and non-Members that request technical support at any of the MIAX PEARL Equities data centers. MIAX PEARL Equities proposes to charge a fee of \$200 per hour for requested technical support. The Exchange intends to provide Equity Members and non-Members access to the Exchange's on-site data center personnel for technical support as a convenience to the Equity Members and non-Members to test or otherwise assess their connectivity to the Exchange. Currently, the Exchange charges the same fee amount for the same services for options trading, as well as at its affiliate option exchanges, Miami International Securities Exchange, LLC ("MIAX") and MIAX Emerald, LLC ("MIAX Emerald").²³

Market Data Fees

Proposed Sections 3)a)-c) describe the fee to be charged for the Exchange's proprietary market data products. MIAX PEARL Equities intends to offer the following three proprietary market data products: (a) Top of Market ("ToM") feed; (b) Depth of Market ("DoM") feed; and (c) the Historical Market Data feed.

The ToM feed is a data feed that contains the price and aggregate size of displayed top of book quotations, order execution information, and administrative messages for orders entered on MIAX PEARL Equities. The DoM feed is a data feed that contains the displayed price and size

²³ See MIAX Fee Schedule, Section 5)f), Member and non-Member Technical Support Request Fee; MIAX PEARL Fee Schedule, Section 5)f), Member and non-Member Technical Support Request Fee; and MIAX Emerald Fee Schedule, Section 5)f), Member and non-Member Technical Support Request Fee.

of each order entered on MIAX PEARL Equities, as well as order execution information, order cancellations, order modifications, order identification numbers, and administrative messages.

The Exchange proposes to provide under Sections 3)a) and 3)b) of the Fee Schedule that the ToM and DoM would be offered free of charge during the Waiver Period. Even though the fees for the ToM and DoM data feeds are waived during the Waiver Period, the Exchange believes that is appropriate to provide market participants with notice of these feeds on the Fee Schedule without setting forth a specific fee amount, so that there is general awareness that the Exchange intends to assess such a fee in the future, should the Waiver Period terminate and the Exchange establish an applicable fee.

The Exchange will also offer Historical Data for MIAX PEARL Equities, which is a data product that offers historical market data for orders entered on MIAX PEARL Equities upon request. The Exchange proposes to charge a fee for the Historical Data, which will be based on the cost incurred by the Exchange in providing that data. Proposed Section 3)c) of the Fee Schedule describes the fee to be charged market participants that request Historical Data from MIAX PEARL Equities. Historical Data is intended to aid market participants in analyzing trade and volume data, evaluating historical trends in the trading activity of a particular security, and enabling those market participants to test trading models and analytical strategies. Specifically, Historical Data includes all data that is captured and disseminated on ToM and DoM feeds and is available on a T+1 basis.²⁴

The Exchange will only assess the fee for Historical Data on a user (whether Equity Member or non-Member) that specifically requests such Historical Data. Historical Data will be uploaded onto an Exchange-provided device, which the Exchange will incur a cost to procure

²⁴ See Fee Schedule, Section 3)c).

and provide to those that request the data.

The Exchange proposed to charge a flat fee of \$500 per device requested. Each device shall have a maximum storage capacity of 8 terabytes. Users may request up to six months of Historical Data per device, subject to the device's storage capacity. Historical Data will be made available beginning from the time of launch of MIAX PEARL Equities on September 25, 2020 (always on a T+1 basis). However, only the most recent six months of Historical Data shall be available for purchase from the request date.

b. Statutory Basis

The Exchange believes that its proposal to amend its Fee Schedule is consistent with Section 6(b) of the Act²⁵ in general, and furthers the objectives of Section 6(b)(4) of the Act²⁶ in particular, in that it provides for the equitable allocation of reasonable dues, fees and other charges among Exchange Members and issuers and other persons using any facility or system which the Exchange operates or controls. The Exchange also believes the proposal furthers the objectives of Section 6(b)(5) of the Act²⁷ in that it is designed to promote just and equitable principles of trade, to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general to protect investors and the public interest and is not designed to permit unfair discrimination between customer, issuers, brokers and dealers.

On March 29, 2019, the Commission issued its Order Disapproving Proposed Rule Changes to Amend the Fee Schedule on the BOX Market LLC Options Facility to Establish

²⁵ 15 U.S.C. 78f(b).

²⁶ 15 U.S.C. 78f(b)(4).

²⁷ 15 U.S.C. 78f(b)(5).

BOX Connectivity Fees for Participants and Non-Participants Who Connect to the BOX Network (the “BOX Order”).²⁸ On May 21, 2019, the Commission issued the Staff Guidance on SRO Rule Filings Relating to Fees.²⁹

The Exchange believes that the Proposed Fees are consistent with the Act because they (i) are reasonable, equitably allocated, not unfairly discriminatory, and not an undue burden on competition; (ii) comply with the BOX Order and the Guidance; (iii) are supported by evidence (including comprehensive revenue and cost data and analysis) that they are fair and reasonable because they do not result in excessive pricing or supra-competitive profit; and (iv) utilize a cost-based justification framework that is substantially similar to a framework previously used by the Exchange (and its affiliates) to establish comparable access fees, including connectivity fees and port fees, for its options market. Accordingly, the Exchange believes that the Commission should find that the Proposed Fees are consistent with the Act.

The Exchange is not aware of any reason why market participants could not simply drop their connections to an exchange (or not connect to an exchange) if an exchange were to establish prices for its non-transaction fees that, in the determination of such market participant, did not make business or economic sense for such market participant to connect to such exchange. No market participant is required by rule, regulation, or competitive forces to be a Member of the Exchange or MIAX PEARL Equities. As evidence of the fact that market participants can and do disconnect from exchanges based on non-transaction fee pricing, R2G Services LLC (“R2G”) filed a comment letter after BOX’s proposed rule changes to increase its

²⁸ 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).

²⁹ See Staff Guidance on SRO Rule Filings Relating to Fees (May 21, 2019), at <https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees> (the “Guidance”).

connectivity fees (SR-BOX-2018-24, SR-BOX-2018-37, and SR-BOX-2019-04).³⁰ The R2G Letter stated, “[w]hen BOX instituted a \$10,000/month price increase for connectivity; we had no choice but to terminate connectivity into them as well as terminate our market data relationship. The cost benefit analysis just didn’t make any sense for us at those new levels.”³¹ As further evidence of the fact that market participants can and do disconnect from exchanges based on non-transaction fee pricing, a member of the Exchange’s affiliate, MIAX Emerald, recently discontinued the use of MIAX Emerald’s connectivity and port services as a result of MIAX Emerald increasing connectivity fees and establishing certain port fees. Accordingly, these examples show that if an exchange sets too high of a fee for connectivity and/or other non-transaction fees for its relevant marketplace, market participants can choose to disconnect from such exchange.

The Exchange believes its proposal to include a Definitions section in the Fee Schedule promotes just and equitable principles of trade, removes impediments to and perfects the mechanism of a free and open market and a national market system, and, in general protects investors and the public interest and is not designed to permit unfair discrimination between customers, issuers, brokers and dealers. The Exchange believes that the proposal to adopt a Definitions section in the beginning of the Fee Schedule will provide greater clarity to Equity Members, non-Members, market participants and the public regarding the Exchange’s fees and rebates, and it is in the public interest for the Fee Schedule to be transparent, comprehensive and user-friendly so as to eliminate the potential for confusion.

³⁰ See Letter from Stefano Durdic, R2G, to Vanessa Countryman, Acting Secretary, Commission, dated March 27, 2019 (the “R2G Letter”).

³¹ See id.

The Exchange believes that its proposal is consistent with Section 6(b)(4) of the Act because the Proposed Access Fees will permit recovery (less than all) of the Exchange's costs and will not result in excessive or supra-competitive profit. The Proposed Access Fees will allow the Exchange to recover a portion (less than all) of the costs incurred by the Exchange associated with providing and maintaining the necessary hardware and other infrastructure as well as network monitoring and support services in order to provide the services associated with the Proposed Access Fees. The Exchange believes that it is reasonable and appropriate to establish its fees charged for the services associated with the Proposed Access Fees at levels that will partially offset the costs to the Exchange associated with maintaining and enhancing a state-of-the-art exchange network infrastructure in the U.S. equities industry.

The costs associated with building out and maintaining a state-of-the-art network infrastructure are extensive. This is due to several factors, including costs associated with maintaining and expanding a team of highly-skilled network engineers, fees charged by the Exchange's third-party data center operator, costs associated with projects and initiatives designed to improve overall network performance and stability through the Exchange's research and development ("R&D") efforts, and costs associated with fully-supporting advances in infrastructure and expansion of network level services, including customer monitoring, alerting and reporting. The Exchange incurs significant technology expense related to establishing and maintaining Information Security services, enhanced network monitoring and customer reporting, as well as Regulation SCI mandated processes, associated with its network technology. While some of the expense is fixed, much of the expense is not fixed, and thus increases as the number of connections and ports increase. For example, new 1Gb ULL and 10Gb ULL connections require the purchase of additional hardware to support

those connections as well as enhanced monitoring and reporting of customer performance that the Exchange and its affiliates provide. Further, 10Gb ULL connections require the purchase of specialized, more costly hardware. As the total number of all connections increase, the Exchange needs to increase its data center footprint and consume more power, resulting in increased costs charged by its third-party data center providers. Accordingly, the cost to the Exchange to provide access to its network and trading infrastructure is not entirely fixed.

Further, because the costs of operating a data center are significant and not economically feasible for the Exchange, the Exchange does not operate its own data centers, and instead contracts with a third-party data center provider. The Exchange notes that larger, well-established exchange operators own/operate their data centers, which offers them greater control over their data center costs. Because those exchanges own and operate their data centers as profit centers, the Exchange is subject to additional costs. Fees for the services associated with the Proposed Access Fees, which are charged for accessing the Exchange's data center network infrastructure, are directly related to the network and offset such costs.

Further, the Exchange invests significant resources in network R&D to continuously improve the overall performance and stability of its network. For example, the Exchange has a number of network monitoring tools (some of which were developed in-house, and some of which are licensed from third-parties), that continually monitor, detect, and report network performance, many of which serve as significant value-adds to Equity Members and enable the Exchange to provide a high level of customer service. These tools detect and report performance issues, and thus enable the Exchange to proactively notify an Equity Member (and the SIPs) when the Exchange detects a problem with an Equity Member's connectivity. In fact, the Exchange's affiliate options exchanges, MIAX and MIAX Emerald, often receive inquiries

from other industry participants regarding the status of networking issues outside of the Exchange's own network environment that are impacting the industry as a whole via the SIPs, including inquiries from regulators, because the Exchange has a superior, state-of-the-art network that, through its enhanced monitoring and reporting solutions, often detects and identifies industry-wide networking issues ahead of the SIPs. The Exchange also incurs costs associated with the maintenance and improvement of existing tools and the development of new tools.

Also, routine R&D projects to improve the performance of the network's hardware infrastructure result in additional cost. In sum, the costs associated with maintaining and enhancing a state-of-the-art exchange network in the U.S. equity securities industry is a significant expense for the Exchange that is projected to increase year-over-year, and thus the Exchange believes that it is reasonable to offset a portion of those costs through establishing the Proposed Access Fees, which are designed to recover those costs, as described herein. Overall, the Proposed Access Fees are projected to offset only a portion of the Exchange's services associated with the Proposed Access Fees. The Exchange invests in and offers a superior network infrastructure as part of its overall exchange services offering, resulting in significant costs associated with maintaining this network infrastructure, which are directly tied to the amount of the Proposed Access Fees that must be charged to access it, in order to recover those costs.

The Exchange believes it is reasonable to consider the expense and revenue for ports and connectivity alternatives together because ports and connectivity are inextricably linked components of the network infrastructure, and that both are necessary for a market participant to access the Exchange. The various types of connectivity and port alternatives that the

Exchange offers provide a wide array of access alternatives necessary for a market participant to conduct its business using the Exchange, which is a business decision to be made by each particular type of market participant. The different types of connectivity and port alternatives allows Equity Members to conduct their different business strategies – some Equity Members put an emphasis on speed, while others emphasize other strategies, such as redundancy and certainty of execution. The Exchange does not require an Equity Member to have a certain framework for accessing the Exchange, but provides various connectivity and port alternatives for each Equity Member's distinct business lines.

The Exchange offers various types of ports with differing prices because each port accomplishes different tasks, are suited to different types of Equity Members, and consume varying capacity amounts of the network. For instance, MEO ports allow for a higher throughput and can handle much higher order rates than FIX ports. Equity Members that are Market Makers or high frequency trading firms utilize these ports (typically coupled with 10Gb ULL connectivity) because they transact in significantly higher amounts of messages being sent to and from the Exchange, versus FIX port users, who are traditionally customers sending only orders to the Exchange (typically coupled with 1Gb connectivity). The different types of ports cater to the different types of Exchange Memberships and different capabilities of the various Exchange Members. Market Makers have quoting and other obligations that traditional customers do not. Market Makers, therefore, need ports and connections that can handle using far more of the network's capacity for message throughput, risk protections, and the amount of information that has to be assessed. Market Makers account for the vast majority of network capacity utilization and volume executed on the Exchange.

The Exchange only has four primary sources of revenue: transaction fees, access fees

(of which the Proposed Access Fees constitute the majority), regulatory fees, and market data fees. Accordingly, the Exchange must cover all of its expenses from these four primary sources of revenue.

The Exchange believes that the Proposed Access Fees are fair and reasonable because they will not result in excessive pricing or supra-competitive profit, when comparing the total annual expense that the Exchange projects to incur in connection with providing the services associated with the Proposed Access Fees versus the total annual revenue of the Exchange projects to collect in connection with providing those services. For 2020³², the total annual expense³³ for providing the services associated with the Proposed Access Fees for MIAX PEARL Equities is projected to be approximately \$8.4 million. The \$8.4 million in expense includes expense associated with providing all ports and all connectivity alternatives. The Exchange is unable to separate out its expense by connectivity alternative, as all connectivity alternatives are intricately combined in a single network infrastructure. Nevertheless, the Exchange attributes the majority of connectivity expense to the 10Gb ULL connections because the majority of network capacity is used by 10Gb ULL purchasers. The \$8.4 million in projected total annual expense is comprised of the following, all of which are directly related to the services associated with the Proposed Access Fees by MIAX PEARL Equities to its Equity Members and non-Members: (1) third-party expense, relating to fees paid by MIAX PEARL Equities to third-parties for certain products and services; and (2) internal expense, relating to the internal costs of MIAX PEARL Equities to provide the services associated with the

³² The Exchange has not yet finalized its 2020 year end results.

³³ The Exchange notes that the total expense figures for each of the external and internal expenses described herein relate only to the Exchange's equities market. No expense relating to the Exchange's options market is included in this filing.

Proposed Access Fees. The \$8.4 million in projected total annual expense is directly related to the services associated with the Proposed Access Fees and not any other product or service offered by the Exchange. It does not include general costs of operating matching systems and other trading technology, and no expense amount was allocated twice.

As discussed, the Exchange conducted an extensive review in which the Exchange analyzed every expense item in the Exchange's general expense ledger (this includes over 150 separate and distinct expense items) to determine whether each such expense relates to the services associated with the Proposed Access Fees, and, if such expense did so relate, what portion (or percentage) of such expense actually supports those services, and thus bears a relationship that is, "in nature and closeness," directly related to those services. The sum of all such portions of expenses represents the total cost of the Exchange to provide the services associated with the Proposed Access Fees.

For 2020, total actual and projected third-party expense, relating to fees paid by the Exchange to third-parties for certain products and services for the Exchange to be able to provide the services associated with the Proposed Access Fees, was \$1,492,112. This includes, but is not limited to, a portion of the fees paid to: (1) Equinix, for data center services, for the primary, secondary, and disaster recovery locations of the MIAX PEARL Equities trading system infrastructure; (2) Zayo Group Holdings, Inc. ("Zayo") for connectivity services (fiber and bandwidth connectivity) linking MIAX PEARL Equities' office locations in Princeton, New Jersey and Miami, Florida to all data center locations; (3) Secure Financial Transaction Infrastructure ("SFTI"), which supports connectivity and feeds for the entire equity securities industry; (4) various other services providers (including Thompson Reuters, NYSE, Nasdaq, Internap, and Options IT), which provide content, connectivity services, infrastructure services,

and market data services; and (5) various other hardware and software providers (including Dell and Cisco, which support the production environment).

For clarity, only a portion of all fees paid to such third-parties is included in the third-party expense herein (only the portions that actually support the services associated with the Proposed Access Fees), and no expense amount is allocated twice. Accordingly, the Exchange does not allocate its entire information technology and communication costs to the services associated with the Proposed Access Fees.

The Exchange believes it is reasonable to allocate such third-party expense described above towards the total cost to the Exchange to operate and support the network, including providing the services associated with the Proposed Access Fees.³⁴ In particular, the Exchange believes it is reasonable to allocate the identified portions of the Equinix expense because Equinix operates the data centers (primary, secondary, and disaster recovery) that host the Exchange's network infrastructure, which enables the services associated with the Proposed Access Fees. This includes, among other things, the necessary storage space, which continues to expand and increase in cost, power to operate the network infrastructure, and cooling apparatuses to ensure the Exchange's network infrastructure maintains stability. Without these services from Equinix, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the Equinix expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to operating and

³⁴ The Exchange notes that the below allocation percentages are the percentage of the total cost incurred by MIAX PEARL Equities and not costs related to operating the Exchange's options trading platform. See also id.

supporting the network, approximately 73% of the total Equinix expense (68% allocated towards the cost of providing the provision of network connectivity and 5% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

The Exchange believes it is reasonable to allocate the identified portions of the Zayo expense because Zayo provides the internet, fiber and bandwidth connections with respect to the network, linking MIAx PEARL Equities with the Exchange's affiliates, MIAx and MIAx Emerald, as well as the data center and disaster recovery locations. As such, all of the trade data flow through Zayo's infrastructure over the Exchange's network. Without these services from Zayo, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the Zayo expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access Fees, approximately 66% of the total Zayo expense (62% allocated towards the cost of providing the provision of network connectivity and 4% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

The Exchange believes it is reasonable to allocate the identified portions of the SFTI expense and various other service providers' (including Thompson Reuters, NYSE, Nasdaq, Internap, and Options IT) expense because those entities provide connectivity and feeds for the

entire U.S. securities industry as well as the content, connectivity services, infrastructure services, and market data services for critical components of the network. Without these services from SFTI and various other service providers, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the SFTI and other service providers' expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access Fees, approximately 94% of the total SFTI and other service providers' expense (89% allocated towards the cost of providing the provision of network connectivity and 5% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

The Exchange believes it is reasonable to allocate the identified portion of the other hardware and software provider expense because this includes costs for dedicated hardware licenses for switches and servers, as well as dedicated software licenses for security monitoring and reporting across the network. Without this hardware and software, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the hardware and software provider expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access Fees, approximately 57% of the total hardware and software provider expense

(54% allocated towards the cost of providing the provision of network connectivity and 3% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

For 2020, total projected internal expense, relating to the internal costs of the Exchange to provide the services associated with the Proposed Access Fees, is projected to be \$6,905,858. This includes, but is not limited to, costs associated with: (1) employee compensation and benefits for full-time employees that support the services associated with the Proposed Access Fees, including staff in network operations, trading operations, development, system operations, business, etc., as well as staff in general corporate departments (such as legal, regulatory, and finance) that support those employees and functions; (2) depreciation and amortization of hardware and software used to provide the services associated with the Proposed Access Fees, including equipment, servers, cabling, purchased software and internally developed software used in the production environment to support those services for trading; and (3) occupancy costs for leased office space for staff that support the services associated with the Proposed Access Fees. The breakdown of these costs is more fully-described below.

For clarity, only a portion of all such internal expenses are included in the internal expense herein (only the portions that support the services associated with the Proposed Access Fees), and no expense amount is allocated twice. Accordingly, the Exchange does not allocate its entire costs contained in those line items to the services associated with the Proposed Access Fees.

The Exchange believes it is reasonable to allocate such internal expense described

above towards the total cost to the Exchange to operate and support the network, including providing the services associated with the Proposed Access Fees. In particular, MIAX PEARL Equities' employee compensation and benefits expense relating to providing the services associated with the Proposed Access Fees is projected to be \$4,317,667, which is only a portion of the \$13,492,708 total projected expense for employee compensation and benefits. The Exchange believes it is reasonable to allocate the identified portions of each expense because they include the time spent by employees of several departments, including Technology, Back Office, Systems Operations, Networking, Business Strategy Development (who create the business requirement documents that the Technology staff use to develop network features and enhancements), Trade Operations, Finance (who provide billing and accounting services), and Legal (who provide legal services, such as rule filings and various license agreements and other contracts). As part of the extensive cost review conducted by the Exchange, the Exchange reviewed the amount of time spent by each employee on matters relating to the operation and support of the network, including the services associated with the Proposed Access Fees. Without these employees, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the employee compensation and benefits expense toward the cost of providing the services associated with the Proposed Access Fees, only that portion which the Exchange identified as being specifically mapped to providing the services associated with Proposed Access Fees, approximately 32% of the total employee compensation and benefits expense (29% allocated towards the cost of providing the provision of network connectivity and 3% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the

Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

MIAX PEARL Equities' depreciation and amortization expense relating to providing the services associated with the Proposed Access Fees is projected to be \$2,131,411, which is only a portion of the \$2,664,264 total projected expense for depreciation and amortization. The Exchange believes it is reasonable to allocate the identified portions of such projected 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 the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the projected depreciation and amortization expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access Fees, approximately 80% of the total depreciation and amortization expense (76% allocated towards the cost of providing the provision of network connectivity and 4% allocated towards the cost of providing ports). The services associated with the Proposed Access Fees would not be possible without relying on such equipment. The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

MIAX PEARL Equities' occupancy expense relating to providing the services associated with the Proposed Access Fees is projected to be \$456,780, which is only a portion

of the \$878,423 total projected expense for occupancy. The Exchange believes it is reasonable to allocate the identified portions of such projected expense because such expense represents the portion of the Exchange's cost to rent and maintain a physical location for the Exchange's staff who operate and support the network, including providing the services associated with the Proposed Access Fees. These amounts consist primarily of rent for the Exchange's Princeton, New Jersey office, as well as various related costs, such as physical security, property management fees, property taxes, and utilities. The Exchange operates its Network Operations Center ("NOC") and Security Operations Center ("SOC") from its Princeton, New Jersey office location. A centralized office space is required to house the staff that operates and supports the network. The Exchange currently has approximately 150 employees (and continues to increase its headcount to support the network as the Exchange, and its affiliates, grow the network). Approximately two-thirds of the Exchange's staff are in the Technology department, and the majority of those staff members have some role in the operation and performance of the network. Without this office space, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. Accordingly, the Exchange believes it is reasonable to allocate the identified portions of its occupancy expense because such amounts represent the Exchange's actual cost to house the equipment and personnel who operate and support the Exchange's network infrastructure for the services associated with the Proposed Access Fees. The Exchange did not allocate all of the projected occupancy expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access, approximately 52% of the total occupancy expense (48% allocated towards

the cost of providing the provision of network connectivity and 4% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

The Exchange notes that a material portion of its total overall expense is allocated to the provision of services associated with the Proposed Access Fees. The Exchange believes this is reasonable and in line, as the Exchange operates a technology-based business that differentiates itself from its competitors based on its trading systems that rely on its high performance network, resulting in significant technology expense. Over two-thirds of Exchange staff are technology-related employees. The majority of the Exchange's expense is technology-based. As described above, the Exchange has only four primary sources of fees in to recover its costs, thus the Exchange believes it is reasonable to allocate a material portion of its total overall expense towards the Proposed Access Fees.

The Exchange's monthly revenue for the Proposed Access Fees is based on the following purchases by Equity Members and non-Members during a recent billing cycle: (i) 12 1Gb ULL connections; (ii) 81 10Gb ULL connections; and (iii) 103 MEO Ports. The monthly revenue from Port fees is subject to change from month to month depending on the number of Ports purchased. Accordingly, the Exchange's total monthly Port revenue was \$22,800 and total 1 Gb and 10Gb ULL connectivity revenue was \$295,500. The Exchange notes that the port revenue projections are subject to change depending on market participant needs and the tiers achieved. As such, the projection of \$295,500 per month is not a static number and may fluctuate from month to month.

Accordingly, based on the facts and circumstances presented, the Exchange believes that its provision of the services associated with the Proposed Access Fees will not result in excessive pricing or supra-competitive profit. To illustrate, on a going-forward, fully-annualized basis, the Exchange projects that its annualized revenue for providing the services associated with the Proposed Access Fees would be approximately \$3,600,000 per annum, based on a recent billing cycle. The Exchange projects that its annualized expense for providing the services associated with the Proposed Access Fees would be approximately \$8,400,000 per annum. Accordingly, on a fully-annualized basis, the Exchange believes its total projected revenue for the providing the services associated with the Proposed Access Fees will not result in excessive pricing or supra-competitive profit, as the Exchange will incur a loss of \$4,800,000 on the Proposed Access Fees ($\$3.6 \text{ million} - \$8.4 \text{ million} = (\$4.8 \text{ million per annum})$).

For the avoidance of doubt, none of the expenses included herein relating to the services associated with the Proposed Access Fees relate to any other services offered by MIAX PEARL Equities. Stated differently, no expense amount of the Exchange is allocated twice. The Exchange notes that, with respect to MIAX PEARL Equities expenses included herein, those expenses only cover the MIAX PEARL Equities market; expenses associated with the Exchange's options trading platform, its affiliate exchanges, MIAX and MIAX Emerald, are accounted for separately and are not included within the scope of this filing. Stated differently, no expense amount of the Exchange is also allocated to its options trading platform, MIAX or MIAX Emerald.

The Exchange believes it is reasonable, equitable and not unfairly discriminatory to allocate the respective percentages of each expense category described above towards the total

cost to the Exchange of operating and supporting the network, including providing the services associated with the Proposed Access Fees, because the Exchange performed a line-by-line item analysis of all the expenses of the Exchange, and has determined the expenses that directly relate to operation and support of the network, including the services associated with the Proposed Access Fees. Further, the Exchange notes that, without the specific third-party and internal items listed above, the Exchange would not be able to operate and support the network, including the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. Each of these expense items, including physical hardware, software, employee compensation and benefits, occupancy costs, and the depreciation and amortization of equipment, have been identified through a line-by-line item analysis to be integral to the operation and support of the network. The Proposed Access Fees are intended to recover the Exchange's costs (less than all) of operating and supporting the network, including providing the services associated with the Proposed Access Fees.

Accordingly, the Proposed Access Fees are fair and reasonable because they do not result in excessive pricing or supra-competitive profit, when comparing the actual network operation and support costs to the Exchange versus the projected revenue for the services associated with the Proposed Access Fees.

The Exchange notes that other equities exchanges have similar connectivity alternatives for their participants, including similar low-latency connectivity. For example, the Nasdaq Stock Market LLC ("Nasdaq"), Nasdaq PHLX LLC ("Phlx"), and Nasdaq ISE, LLC ("ISE") all offer a 1Gb, 10Gb and 10Gb low latency ethernet connectivity alternatives to each of their

participants.³⁵ NYSE Arca, Inc. (“NYSE Arca”), NYSE American LLC (“NYSE American”), NYSE Chicago, Inc. (“NYSE Chicago”) and NYSE National, Inc. (“NYSE National”) all offer a 1Gb and 10Gb low latency ethernet connectivity alternatives to each of their participants.³⁶ The Exchange notes that all the other equities exchanges described above charge higher rates for such similar connectivity to primary and secondary facilities. While the Exchange’s proposed connectivity fees are substantially lower than the fees charged by Nasdaq, Phlx, ISE, NYSE America, NYSE Arca, NYSE Chicago and NYSE National, the Exchange believes that it can offer significant value to Equity Members over other exchanges in terms of network monitoring and reporting, which the Exchange believes is a competitive advantage, and differentiates its access services versus access services at other exchanges. Additionally, the Exchange’s proposed connectivity fees to its disaster recovery facility are within the range of the fees charged by other exchanges for similar connectivity alternatives.³⁷ The Exchange also notes that other equities exchanges have similar port alternatives for their participants, with similar or substantially higher fees.³⁸

³⁵ See Nasdaq, Phlx and ISE General Rules, General 8, Section 1(b). Nasdaq, Phlx and ISE each charge a monthly fee of \$2,500 for each 1Gb connection, \$10,000 for each 10Gb connection and \$15,000 for each 10Gb Ultra connection, which is the equivalent of the Exchange’s 10Gb ULL connection.

³⁶ See NYSE American Fee Schedule, NYSE Arca Fee Schedule, NYSE Chicago Fee Schedule and NYSE National Fee Schedule, Co-Location Fees. NYSE American, NYSE Arca, NYSE Chicago and NYSE National each charge a monthly fee of \$5,000 for each 1Gb circuit and \$22,000 for each 10Gb LX circuit, which is the equivalent of the Exchange’s 10Gb ULL connection.

³⁷ See Cboe EDGA Exchange, Inc. (“EDGA”) and Cboe EDGX Exchange, Inc. (“EDGX”) Fee Schedules, Physical Connectivity Fees, (charging a monthly fee of \$2,000 for a 1Gb disaster recovery network access port and a monthly fee of \$6,000 for a 10Gb disaster recovery network access port).

³⁸ See Nasdaq Fee Schedule, Equity Rules, Equity 7, Pricing Schedule, Ports (charging \$575 per FIX port per month); Phlx Fee Schedule, Equity Rules, Equity 7, Pricing Schedule, Section 3 Nasdaq PSX Fees (charging \$400 per FIX port per month); EDGX

Historical Data

The Exchange believes the proposed fee for Historical Data is a reasonable allocation of its costs and expenses among its Equity Members and other persons using its facilities since it is recovering the costs associated with distributing such data should an Equity Member request Historical Data. Access to the Exchange is provided on fair and non-discriminatory terms. The Exchange believes the proposed fee for Historical Data is equitable and not unfairly discriminatory because the fee level results in a reasonable and equitable allocation of fees amongst users for similar services. Moreover, the decision as to whether or not to purchase Historical Data is entirely optional to all users. Potential purchasers are not required to purchase the Historical Data, and the Exchange is not required to make the Historical Data available. Purchasers may request the data at any time or may decline to purchase such data. The allocation of fees among users is fair and reasonable because, if the market deems the proposed fees to be unfair or inequitable, firms can diminish or discontinue their use of this data.

The Exchange believes that the proposed fee for Historical Data is consistent with Section 6(b)(4) of the Act because the Proposed Access Fees will permit recovery of the Exchange's costs and will not result in excessive or supra-competitive profit. The proposed fee for Historical Data will allow the Exchange to recover a portion (less than all) of the costs incurred by the Exchange associated with providing and maintaining the necessary hardware and other infrastructure as well as network monitoring and support services in order to provide Historical Data. The Exchange believes that it is reasonable and appropriate to establish a fee for Historical Data at a level that will partially offset the costs to the Exchange associated with

Fee Schedule, Logical Port Fees (charging \$550 per Logical Port per month and \$650 per Purge port per month).

maintaining and providing Historical Data. For example, Historical Market Data is uploaded onto an Exchange-provided device. Each device shall have a maximum storage capacity of 8 terabytes. The Exchange incurs costs in providing the device, storing the historical data, and utilizing resources to upload the data onto the device. Specifically, the device provided by the Exchange costs approximately \$200 to \$300. Moreover, the Exchange tracks the number of hours spent by Exchange personnel procuring Historical Market Data. Based on the average number of person hours spent by the Exchange on procuring Historical Market Data, and based on the Exchange's average cost per full-time employee ("FTE") of approximately \$250,000 (inclusive of all compensation and employee benefits) per year, the Exchange represents that its cost to provide this service is reasonably related to (and often exceeds) the amount of the Historical Market Data fee the Exchange proposes to charge for such service. Therefore, the FTE cost to the Exchange on average \$130 an hour and it takes approximately four FTE hours to process a request for Historical Market Data. Accordingly, the proposed Historical Market Data fee would enable the Exchange to recover a material portion of its costs to provide Historical Market Data. The Exchange believes this is a conservative cost allocation because the Exchange is not allocating any additional costs beyond the employee compensation for employees directly involved in this process and the cost of the device. These unallocated addition costs include technology costs of employees, office space costs of employees, costs associated with supporting departments' time for things such as internal meetings, project management coordination among the individuals who indirectly support the provision of Historical Market Data, and various other indirectly-related costs.

The Exchange also notes that its proposed fee is identical to that it charges today for options historical data and less than that charged by other exchanges for their own historical data.

For example, all four of the Cboe equity exchanges charge a fee of \$500 for one month of historical data and \$2,500 for one terabyte drive of data.³⁹

Pass-Through of External Connectivity Fees

The Exchange believes that the proposed pass-through of external connectivity fees constitutes an equitable allocation of fees, and is not unfairly discriminatory, because it allows the Exchange to recover costs associated with offering access through the network connections, responding to customer requests, configuring MIAX PEARL Equities' systems, programming API user specifications and administering the various services. Access to the MIAX PEARL Equities market is offered on fair and non-discriminatory terms.

The Exchange believes it is reasonable, equitable and not unfairly discriminatory to pass-through External Connectivity fees to Equity Members and non-Members that establish connections with MIAX PEARL Equities through a third-party. MIAX PEARL Equities will only pass-through the actual costs it is charged by third-party external vendors. The Exchange believes it is reasonable and equitable to recover costs charged it on behalf of an Equity Member or non-Member that establishes connections with MIAX PEARL Equities through a third party. Other exchanges, including EDGX and EDGA, charge a fee for similar services to their members and non-members.

Technical Support Request Fee

The Exchange believes that the proposed Technical Support Request fee is fair, equitable and not unreasonably discriminatory, because it is assessed equally to all Equity Members and non-Members who request technical support. Furthermore, Equity Members and non-Members

³⁹ See, e.g., Cboe BZX Exchange, Inc. fee schedule available at https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/.

are not required to use the service but instead it is offered as a convenience to all Equity Members and non-Members. The proposed fee is reasonably designed because it will permit both Equity Members and non-Members to request the use of the Exchange's on-site data center personnel as technical support and as a convenience in order to test or otherwise assess their connectivity to the Exchange and the fee is within the range of the fee charged by other exchanges for similar services and is identical to the same fee assessed by the Exchange today for options as well as the Exchange's affiliates, MIAX and MIAX Emerald.

As discussed above, the Exchange's average cost per FTE of approximately \$250,000 (inclusive of all compensation and employee benefits) per year, the Exchange represents that its cost to provide this service is reasonably related to (and often exceeds) the amount of the Technical Support fee the Exchange proposes to charge for such service. Therefore, the cost to the Exchange to provide an employee to provide technical support is approximately \$130 per FTE. Also, more than one FTE may be involved depending on the nature of the request. Accordingly, the proposed per hour fee for technical support would enable the Exchange to recover a material portion of such cost. The Exchange believes this is a conservative cost allocation because the Exchange is not allocating any additional costs beyond the employee compensation costs for employees directly involved in this process. These unallocated addition costs include costs associated with potential management review and sign off, technology costs of employees, office space costs of employees, costs associated with supporting departments' time for things such as internal meetings, project management coordination among the individuals who indirectly support the technology support process, and various other indirectly-related costs.

* * * * *

Finally, the Exchange notes that it operates in a highly competitive market in which market participants can readily favor competing venues. In such an environment, the Exchange must establish fees that are competitive with other exchanges. For the reasons described above, the Exchange believes that the proposed fees in the MIAX PEARL Equities Fee Schedule appropriately reflect this competitive environment.

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

The Exchange believes that the Proposed Fees do not place certain market participants at a relative disadvantage to other market participants because the pricing of the Proposed Fees is associated with relative usage of the various market participants and does not impose a barrier to entry to smaller participants. The Exchange believes the Proposed Fees do not favor certain categories of market participants in a manner that would impose a burden on competition; rather, the allocation of the Proposed Fees reflects the network and access resources consumed by various market participants.

The Exchange believes the Proposed Fees do not place an undue burden on competition on other SROs that is not necessary or appropriate. Additionally, other equity exchanges have similar connectivity and port alternatives for their participants, including similar low-latency connectivity, but with much higher rates to connect.⁴⁰ The Exchange is also unaware of any assertion that the Proposed Fees would somehow unduly impair its competition with other equities exchanges. To the contrary, if the fees charged are deemed too high by market participants, they can simply not connect to the Exchange or not use the services associated with the Proposed Access Fees.

While the Exchange recognizes the distinction between connecting to an exchange and

⁴⁰ See supra notes 35 through 38.

trading at the exchange, the Exchange notes that it plans to operate in a highly competitive market in which market participants can readily connect and trade with venues they desire. In such an environment, the Exchange must continually adjust its fees to remain competitive with other exchanges. The Exchange believes that the Proposed Fees reflect this competitive environment.

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

No written comments were either solicited or received.

6. **Extension of Time Period for Commission Action**

Not applicable.

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

Pursuant to Section 19(b)(3)(A)(ii) of the Act, and Rule 19b-4(f)(2) thereunder the Exchange has designated this proposal as establishing or changing a due, fee, or other charge imposed on any person, whether or not the person is a member of the self-regulatory organization, which renders the proposed rule change effective upon filing.

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

The proposed rule change is not based on the rules of any other SRO.

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

Not applicable.

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

Not applicable.

11. **Exhibits**

1. Notice of proposed rule for publication in the Federal Register.
5. Text of the proposed rule change.

EXHIBIT 1

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34- ; File No. SR-PEARL-2021-02)

January ____, 2021

Self-Regulatory Organizations: Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by MIAX PEARL, LLC to Amend the MIAX PEARL Equities Fee Schedule

Pursuant to the provisions of 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 January ____ 2021, MIAX PEARL, LLC (“MIAX PEARL” or “Exchange”) filed with the Securities and Exchange Commission (“Commission”) a proposed rule change as described in Items I, II, and III below, which Items have been prepared by the Exchange. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

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

The Exchange is filing a proposal to amend the MIAX PEARL Equities Fee Schedule (the “Fee Schedule”) by adopting fees applicable to participants trading equity securities on and/or using services provided by MIAX PEARL Equities.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

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

³ See Exchange Rule 1901. The Exchange notes that it submitted a separate filing with the Commission pursuant to Section 19(b)(3)(A) of the Act to establish the Fee Schedule and adopt transaction fees. See Securities Exchange Act Release No. 90102 (October 6, 2020), 85 FR 64559 (October 13, 2020) (SR-PEARL-2020-17).

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

On August 14, 2020, the Commission approved the Exchange's proposal to adopt rules governing the trading of equity securities, referred to as MIA X PEARL Equities.⁴ The Exchange launched MIA X PEARL Equities on September 25, 2020. The Exchange proposes to adopt a Definitions section in the Fee Schedule, as well as the following fees: (1) connectivity fees for Equity Members⁵ and non-Members; (2) Port fees (together with the proposed connectivity fees, the "Proposed Access Fees"); (3) a Technical Support Request fee; and (4) a fee for Historical Market Data (collectively, the "Proposed Fees").

The Exchange initially filed the proposal on September 24, 2020.⁶ The Exchange withdrew the First Proposed Rule Change on October 5, 2020 and submitted SR-PEARL-2020-19 ("Second Proposed Rule Change").⁷ The Second Proposed Rule Change was published for

⁴ See Securities Exchange Act Release No. 89563 (August 14, 2020), 85 FR 51510 (August 20, 2020) (SR-PEARL-2020-03) (Order Approving a Proposed Rule Change, as Modified by Amendment No. 1, To Establish Rules Governing the Trading of Equity Securities) ("Approval Order").

⁵ The term "Equity Member" means a Member authorized by the Exchange to transact business on MIA X PEARL Equities. See Exchange Rule 1901.

⁶ The Exchange initially filed the proposed fee changes on September 24, 2020 (SR-PEARL-2020-18). See SR-PEARL-2020-18 (the "First Proposed Rule Change").

⁷ See Securities Exchange Act Release No. 90186 (October 14, 2020), 85 FR 66656 (October 20, 2020).

comment in the Federal Register on October 20, 2020⁸ and no comment letters were received. The Exchange withdrew the Second Proposed Rule Change⁹ and submitted SR-PEARL-2020-33 (“Third Proposed Rule Change”).¹⁰ The Third Proposed Rule Change was published in the Federal Register on December 17, 2020 and no comment letters were received. The Exchange withdrew the Third Proposed Rule Change¹¹ and now replaces it with this filing to provide further clarification regarding the Exchange’s cost justification analysis for the Proposed Fees.¹²

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 requirements of the Act that fees be reasonable, equitably allocated, not unfairly discriminatory, and not create an undue burden on competition among members and markets. The Exchange believes this high standard is especially important when an exchange imposes various access fees on market participants to access an exchange’s marketplace, as well as other non-transaction fees. MIAX PEARL deems Port fees and Connectivity fees to be access fees, and that Ports and Connectivity are inextricably linked components of the Exchange’s network. Accordingly, the Exchange believes that it is reasonable and appropriate that the costs and revenues for both should be considered together, as the services associated with connectivity and ports are linked

⁸ See id.

⁹ See letter from Chris Solgan, VP, Senior Counsel, the Exchange, dated November 20, 2020, notifying the Commission that the Exchange would withdraw SR-PEARL-2020-19.

¹⁰ See Securities Exchange Act Release No. 90651 (December 11, 2020), 85 FR 81971 (December 17, 2020).

¹¹ See letter from Joseph W. Ferraro, SVP, Deputy General Counsel, the Exchange, dated January 15, 2021, notifying the Commission that the Exchange would withdraw SR-PEARL-2020-33.

¹² In this filing, the Exchange also corrects an error in the earlier filings by replacing references to the term “Priority Purge Ports” with simply “Purge Ports.”

pieces of the network's infrastructure, both of which are necessary for a market participant to access and use the trading System of the Exchange. Both Connectivity fee and Port fee revenue are consolidated into a single line item (Access Fees) on the Exchange's financial statements. The Exchange believes that it is important to demonstrate that the Proposed Fees are based on its costs to provide the services associated with the Proposed Fees and reasonable business needs. Accordingly, the Exchange believes the Proposed Fees, in general, and the Proposed Access Fees, in particular, will allow the Exchange to offset a portion of the expenses the Exchange has and will incur, and that the Exchange has provided sufficient transparency (as described below) into how the Exchange determined to charge such fees. Accordingly, the Exchange is providing an analysis of its revenues, costs, and profitability associated with the Proposed Access Fees. This analysis includes information regarding its methodology for determining the costs and revenues associated with the Proposed Access Fees.

Definitions

The Exchange proposes to include a Definitions section at the beginning of the Fee Schedule, before the General Notes section. The purpose of the Definitions section is to provide market participants greater clarity and transparency regarding the applicability of fees and rebates by defining terms used within the Fee Schedule in a single location. The Exchange notes that other equities exchanges include Definitions sections in their respective fee schedules,¹³ and the Exchange believes that including a Definitions section in the front of the Fee Schedule makes the Fee Schedule more user-friendly and makes the Fee Schedule more comprehensive.

¹³ See Cboe BZX Exchange, Inc. Fee Schedule, Definitions section; Cboe BYX Exchange, Inc., Definitions section; Cboe EDGA Exchange, Inc., Definitions section; Cboe EDGX Exchange, Inc., Definitions section.

Unless included in the Definition section, capitalized terms used in the Fee Schedule are defined in the MIAX PEARL Equities Rules. Each of the definitions proposed to be included in the Fee Schedule are based on definitions included in the existing MIAX PEARL fee schedule applicable to options (“Options Fee Schedule”)¹⁴ or those of another exchange. In particular, the Exchange propose to offer and define ports and interfaces that provide connectivity to MIAX PEARL Equities. The Exchange notes that each of these offerings are not novel or unique, are available on other equity exchanges, and are currently offered by the Exchange for options trading and provided for in the Exchange’s Options Fee Schedule. The Exchange proposes to define the following terms in the Fee Schedule:

- “Cross-connect” occurs when the affected third-party system is sited at the same data center where MIAX PEARL Equities systems are sited, and the third-party connects to MIAX PEARL Equities through the data center, rather than connecting directly to MIAX PEARL Equities outside of the data center.
- “Exchange System Disruption” means an outage of a Matching Engine or collective Matching Engines for a period of two consecutive hours or more, during trading hours.
- “Extranet Provider” means a technology provider that connects with MIAX PEARL Equities systems and in turn provides such connectivity to MIAX PEARL Equities participants that do not connect directly with MIAX PEARL Equities.
- “FIX Order by Order” means a type of FXD Port that sends all order activities other than reject message, including Execution Reports and Trade Cancel/Correct messages. FIX Order by Order is currently offered by the Exchange for options trading and provided for

¹⁴ See the Options Fee Schedule [available at](https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_PEARL_Fee_Schedule_11052020.pdf) https://www.miaxoptions.com/sites/default/files/fee_schedule-files/MIAX_PEARL_Fee_Schedule_11052020.pdf

in the Exchange's Options Fee Schedule.

- “FIX Order Interface” or “FOI” means the Financial Information Exchange interface for certain order types as set forth in Exchange Rule 2614. FOI is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “FIX Port” means a FIX port that allows Equity Members to send orders and other messages using the FIX protocol. FIX is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “Full Service Port” or “FSP” means an MEO port that supports all MEO order input message types. FSP is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “FIX Drop Port” or “FXD” means a messaging interface that provides real-time order activities of firms' MEO and FOI orders. MIAX PEARL Equities offers two types of FXD ports: (1) Standard FIX Drop; and (2) FIX Order by Order Drop. FXD Ports may be used by Equities Market Makers, Order Entry Firms and clearing firms. FXD is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “MENI” means the MIAX Express Network Interconnect, which is a network infrastructure which provides Equity Members and non-Members network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facilities of the Exchange. The MENI consists of the low latency and ultra-low latency (“ULL”) connectivity options set forth in the Exchange's Fee Schedule. MENI is currently offered by the Exchange for options trading and provided for in the Exchange's Options Fee Schedule.
- “MEO Interface” or “MEO” means a binary order interface for certain order types as set

forth in Rule 516 into the MIAX PEARL System. See Exchange Rule 100.

- “Service Bureau” means a technology provider that offers and supplies technology and technology services to a trading firm that does not have its own proprietary system.
- “Standard FIX Drop” means an FXD Port that only sends trade information, including Execution Reports and Trade Cancel/Correct messages. Standard FIX Drop is currently offered by the Exchange for options trading and provided for in the Exchange’s Options Fee Schedule.
- “Third Party Vendor” means a subscriber of MIAX PEARL Equities’ market and other data feeds, which they in turn use for redistribution purposes.
- “Waiver Period” means, for each applicable fee, the period of time from the initial effective date of the MIAX PEARL Equities Fee Schedule until such time that MIAX PEARL has an effective fee filing establishing the applicable fee. MIAX PEARL Equities will issue a Regulatory Circular announcing the establishment of an applicable fee that was subject to a Waiver Period at least fifteen (15) days prior to the termination of the Waiver Period and effective date of any such applicable fee.

Proposed Access Fees

To provide market participants with a better understanding of how the Exchange has established the levels of the Proposed Access Fees, the Exchange is providing information in this proposal regarding the costs incurred by the Exchange to provide services associated with the Proposed Access Fees, including the Exchange’s cost allocation methodology (information that explains the Exchange’s rationale for determining that it was reasonable to allocate certain expenses described in this filing towards the total cost to the Exchange to provide the services associated with the Proposed Access Fees). The Exchange is also providing an analysis of its expected revenues and profitability for the services associated with the Proposed Access Fees.

In order to determine the Exchange's costs for providing the services associated with the Proposed Access Fees, the Exchange conducted an extensive review in which the Exchange analyzed every expense item in the Exchange's general expense ledger to determine whether each such expense relates to the services associated with the Proposed Access Fees, and, if such expense did so relate, what portion (or percentage) of such expense actually supports those services. The sum of all such portions of expenses represents the total cost of the Exchange to provide the services associated with the Proposed Access Fees. For the avoidance of doubt, no expense amount was allocated twice. The Exchange is also providing detailed information regarding the Exchange's cost allocation methodology – namely, information that explains the Exchange's rationale for determining that it was reasonable to allocate certain expenses described in this filing towards the total cost to the Exchange to provide the Proposed Access Fees.

Since MIAX PEARL Equities did not exist in 2019 (operations only just launched on September 25, 2020), the Exchange's most recent publicly available financial statement (2019 Audited Unconsolidated Financial Statement) is not an accurate reflection of the total annual costs associated with the development and operation of MIAX PEARL Equities. Accordingly, the Exchange believes it is more appropriate to justify its fees using cost figures that are isolated specifically for MIAX PEARL Equities on an annualized basis, and, utilizing a recent monthly billing cycle representative of 2020 monthly revenue, extrapolated annualized revenue on a going-forward basis. The Exchange does not believe it is appropriate to factor into its analysis future revenue growth or decline into its projections for purposes of these calculations, given the uncertainty of such projections due to the continually changing access needs of market participants, discounts that can be achieved through reaching certain tiers, uncertainty relating to the timing of the expiration of certain fee waivers, uncertainty relating to the actual fee amounts

to be established upon expiration of said fee waivers, market participant consolidation, etc. Additionally, the Exchange similarly does not factor into its analysis future cost growth or decline. The purpose of presenting it in this manner is to provide greater transparency into the Exchange's actual and expected revenues, costs, and profitability associated with providing the services associated with the Proposed Access Fees. Based on this analysis, the Exchange believes that the Proposed Access Fees are fair and reasonable because they will permit recovery of less than all of the Exchange's costs for providing the services associated with the Proposed Access Fees and will not result in excessive pricing or supra-competitive profit when comparing the Exchange's total annual expense associated with providing the services associated with the Proposed Access Fees versus the total projected annual revenue the Exchange will collect for providing those services.

Connectivity Fees

Specifically, proposed Sections 2a) and b) of the Fee Schedule describe network connectivity fees for the 1 Gigabit ("Gb") ultra-low latency ("ULL") fiber connection and the 10Gb ULL fiber connection, which are to be charged to both Equity Members and non-Members of MIAX PEARL Equities for connectivity to the Exchange's primary/secondary facility. The Exchange also proposes to adopt network connectivity fees for the 1Gb ULL and 10Gb ULL fiber connections for connectivity to the Exchange's disaster recovery facility.

The Exchange will offer to both Equity Members and non-Members various bandwidth alternatives for connectivity to MIAX PEARL Equities, to its primary and secondary facilities, which consists of a 1Gb ULL fiber connection and a 10Gb ULL fiber connection. The Exchange also offers to both Equity Members and non-Members various bandwidth alternatives for connectivity to the disaster recovery facility of MIAX PEARL Equities, which consists of a 1Gb ULL fiber connection and a 10Gb ULL connection.

The Exchange proposes to establish the monthly network connectivity fees for such connections for both Equity Members and non-Members. The Exchange proposes to adopt the following fees for connectivity to MIAX PEARL Equities' primary/secondary facility for both Equity Members and non-Members: (a) \$1,000 for the 1Gb ULL connection; and (b) \$3,500 for the 10Gb ULL connection. The Exchange proposes to adopt the following fees for connectivity to MIAX PEARL Equities' disaster recovery facility for both Equity Members and non-Members: (a) \$1,000 for the 1Gb ULL connection; and (b) \$3,000 for the 10Gb ULL connection.

Monthly network connectivity fees for Equity Members and non-Members for connectivity with the primary/secondary facility will be assessed in any month the Equity Member or non-Members is credentialed to use any of the MIAX PEARL Equities Application Programming Interfaces ("APIs") or market data feeds in the production environment and will be pro-rated when an Equity Member or non-Member makes a change to the connectivity (by adding or deleting connections) with such pro-rated fees based on the number of trading days that the Equity Member or non-Member has been credentialed to utilize any of the MIAX PEARL Equities' APIs or market data feeds in the production environment through such connection, divided by the total number of trading days in such month multiplied by the applicable monthly rate. Monthly network connectivity fees for Equity Members and non-Members for connectivity to the Disaster Recovery Facility will be assessed in each month during which the Equity Member or non-Member has established connectivity to the Disaster Recovery Facility.

Proposed Section 2)c) of the Fee Schedule, Pass-Through of External Connectivity Fees, provides for the pass through of external connectivity fees (described below) to Equity Members and non-Members that establish connections with MIAX PEARL Equities through a third-party.

Fees assessed to MIAX PEARL Equities by third-party external vendors on behalf of an Equity Member or non-Member connecting to MIAX PEARL Equities (including cross-connects), will be passed through to the Equity Member or non-Member. The external connectivity fees passed through can include one-time set-up fees, monthly charges, and other fees charged to MIAX PEARL Equities by a third-party for the benefit of an Equity Member or non-Member.

Port Fees

Proposed Section 2)d), Port Fees, of the Fee Schedule describes fees for access and services used by Equity Members and non-Members. MIAX PEARL Equities provides three Port types: (i) the Financial Information Exchange Port (“FIX Port”), which allows Equity Members to send orders and other messages using the FIX protocol;¹⁵ (ii) the MIAX Express Orders Interface (“MEO Port”), which allows Equity Members order entry capabilities to all MIAX PEARL Equities Matching Engines¹⁶; and (iii) the FIX Drop Port (“FXD Port”), which provides real-time order activities firms’ MEO and FOI orders. MIAX PEARL Equities offers two types of FXD ports: (1) Standard FIX Drop¹⁷; and (2) FIX Order by Order.¹⁸ FXD Ports may

¹⁵ “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.

¹⁶ 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. Purge Ports are described in Exchange Rule 2618(a)(7)(b).

¹⁷ “Standard FIX Drop” means an FXD Port that only sends trade information, including Execution Reports and Trade Cancel/Correct messages. See the Definitions section of the Fee Schedule.

¹⁸ “FIX Order by Order” means a type of FXD Port that sends all order activities other than reject message, including Execution Reports and Trade Cancel/Correct messages. See the Definitions section of the Fee Schedule.

be used by Equities Market Makers¹⁹, Order Entry Firms²⁰ and clearing firms.

The Exchange proposes to assess monthly Port fees to Equity Members in each month the Equity Member is credentialed to use a Port in the production environment. MIAX PEARL Equities has primary and secondary data centers and a disaster recovery center. Each Port provides access to all Exchange data centers for a single fee. The Exchange notes that, unless otherwise specifically set forth in the Fee Schedule, the Port fees include the information communicated through the Port. That is, unless otherwise specifically set forth in the Fee Schedule, there is no additional charge for the information that is communicated through the Port apart from what the user is assessed for each Port. The Exchange proposes to assess Port Fees for FIX Ports, MEO Ports, and FXD Ports as set forth in the following table:

Type of Port	Monthly Port Fees Includes Connectivity to the Primary, Secondary and Disaster Recovery Data Centers
FIX Port [^]	Per Port: 1 st – 5 th Fee Waived for the Waiver Period 6 th – 10 th Fee Waived for the Waiver Period 11 th – 25 th Fee Waived for the Waiver Period 26 th – 50 th \$450 51 st – 75 th \$400 76 th – 100 th \$350 101 st or more \$300
MEO Port ^{^*}	Per Port: 1 st – 5 th Fee Waived for the Waiver Period 6 th – 10 th Fee Waived for the Waiver Period 11 th – 25 th Fee Waived for the Waiver Period 26 th – 50 th \$450 51 st – 75 th \$400 76 th – 100 th \$350 101 st or more \$300
FXD Port [^]	Fee Waived for the Waiver Period

[^] Each port will have access to all Matching Engines.

¹⁹ The term “Equities Market Maker” shall mean an Equity Member that acts as a Market Maker in equity securities, pursuant to Chapter XXVI. See Exchange Rule 1901.

²⁰ The term “Equities Order Entry Firm”, “Order Entry Firm”, or “OEF”, shall mean those Equity Members representing orders as agent on MIAX PEARL Equities and those non-Equity Market Maker Members conducting proprietary trading. See Exchange Rule 1901.

- * The rates set forth above for MEO Ports entitle an Equity Member to one (1) FSP and one (1) Purge Port²¹ for all Matching Engines for a single port fee.
- MEO and FIX Ports are counted separately for the tiers in the table.

The Exchange proposes to waive the fee for the 1st through the 25th FIX Ports and MEO Ports that Equity Members are credentialed to use, as well as the fees for all FXD Ports, for the Waiver Period.²² For all Port fees that the Exchange initially proposes to be subject to the Waiver Period, the Exchange will submit a rule filing to the Commission to establish the fee amount and any related requirements, and provide notice to terminate the applicable Waiver Period. Even though most of the Port fees are waived during the Waiver Period, the Exchange believes that is appropriate to provide market participants with the overall structure of the fee by outlining the structure on the Fee Schedule without setting forth a specific fee amount in certain areas, so that there is general awareness that the Exchange intends to assess such a fee in the future, should the Waiver Period terminate and the Exchange establish an applicable fee.

Equity Member and Non-Member Technical Support Request Fee

Proposed Section 2)e), Member and Non-Member Technical Support Request Fee, of the Fee Schedule describes the technical support request fee to be charged to both Equity Members and non-Members that request technical support at any of the MIAX PEARL Equities data centers. MIAX PEARL Equities proposes to charge a fee of \$200 per hour for requested technical support. The Exchange intends to provide Equity Members and non-Members access

²¹ Purge Ports are described in Exchange Rule 2618(a)(7)(b).

²² “Waiver Period” means, for each applicable fee, the period of time from the initial effective date of the MIAX PEARL Equities Fee Schedule until such time that MIAX PEARL has an effective fee filing establishing the applicable fee. MIAX PEARL Equities will issue a Regulatory Circular announcing the establishment of an applicable fee that was subject to a Waiver Period at least fifteen (15) days prior to the termination of the Waiver Period and effective date of any such applicable fee. See the Definitions section of the Fee Schedule.

to the Exchange's on-site data center personnel for technical support as a convenience to the Equity Members and non-Members to test or otherwise assess their connectivity to the Exchange. Currently, the Exchange charges the same fee amount for the same services for options trading, as well as at its affiliate option exchanges, Miami International Securities Exchange, LLC ("MIAX") and MIAX Emerald, LLC ("MIAX Emerald").²³

Market Data Fees

Proposed Sections 3)a)-c) describe the fee to be charged for the Exchange's proprietary market data products. MIAX PEARL Equities intends to offer the following three proprietary market data products: (a) Top of Market ("ToM") feed; (b) Depth of Market ("DoM") feed; and (c) the Historical Market Data feed.

The ToM feed is a data feed that contains the price and aggregate size of displayed top of book quotations, order execution information, and administrative messages for orders entered on MIAX PEARL Equities. The DoM feed is a data feed that contains the displayed price and size of each order entered on MIAX PEARL Equities, as well as order execution information, order cancellations, order modifications, order identification numbers, and administrative messages.

The Exchange proposes to provide under Sections 3)a) and 3)b) of the Fee Schedule that the ToM and DoM would be offered free of charge during the Waiver Period. Even though the fees for the ToM and DoM data feeds are waived during the Waiver Period, the Exchange believes that is appropriate to provide market participants with notice of these feeds on the Fee Schedule without setting forth a specific fee amount, so that there is general awareness that the Exchange intends to assess such a fee in the future, should the Waiver Period terminate and the

²³ See MIAX Fee Schedule, Section 5)f), Member and non-Member Technical Support Request Fee; MIAX PEARL Fee Schedule, Section 5)f), Member and non-Member Technical Support Request Fee; and MIAX Emerald Fee Schedule, Section 5)f), Member and non-Member Technical Support Request Fee.

Exchange establish an applicable fee.

The Exchange will also offer Historical Data for MIAX PEARL Equities, which is a data product that offers historical market data for orders entered on MIAX PEARL Equities upon request. The Exchange proposes to charge a fee for the Historical Data, which will be based on the cost incurred by the Exchange in providing that data. Proposed Section 3)c) of the Fee Schedule describes the fee to be charged market participants that request Historical Data from MIAX PEARL Equities. Historical Data is intended to aid market participants in analyzing trade and volume data, evaluating historical trends in the trading activity of a particular security, and enabling those market participants to test trading models and analytical strategies. Specifically, Historical Data includes all data that is captured and disseminated on ToM and DoM feeds and is available on a T+1 basis.²⁴

The Exchange will only assess the fee for Historical Data on a user (whether Equity Member or non-Member) that specifically requests such Historical Data. Historical Data will be uploaded onto an Exchange-provided device, which the Exchange will incur a cost to procure and provide to those that request the data.

The Exchange proposed to charge a flat fee of \$500 per device requested. Each device shall have a maximum storage capacity of 8 terabytes. Users may request up to six months of Historical Data per device, subject to the device's storage capacity. Historical Data will be made available beginning from the time of launch of MIAX PEARL Equities on September 25, 2020 (always on a T+1 basis). However, only the most recent six months of Historical Data shall be available for purchase from the request date.

²⁴ See Fee Schedule, Section 3)c).

2. Statutory Basis

The Exchange believes that its proposal to amend its Fee Schedule is consistent with Section 6(b) of the Act²⁵ in general, and furthers the objectives of Section 6(b)(4) of the Act²⁶ in particular, in that it provides for the equitable allocation of reasonable dues, fees and other charges among Exchange Members and issuers and other persons using any facility or system which the Exchange operates or controls. The Exchange also believes the proposal furthers the objectives of Section 6(b)(5) of the Act²⁷ in that it is designed to promote just and equitable principles of trade, to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general to protect investors and the public interest and is not designed to permit unfair discrimination between customer, issuers, brokers and dealers.

On March 29, 2019, the Commission issued its 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 “BOX Order”).²⁸ On May 21, 2019, the Commission issued the Staff Guidance on SRO Rule Filings Relating to Fees.²⁹

The Exchange believes that the Proposed Fees are consistent with the Act because they (i) are reasonable, equitably allocated, not unfairly discriminatory, and not an undue burden on

²⁵ 15 U.S.C. 78f(b).

²⁶ 15 U.S.C. 78f(b)(4).

²⁷ 15 U.S.C. 78f(b)(5).

²⁸ 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).

²⁹ See Staff Guidance on SRO Rule Filings Relating to Fees (May 21, 2019), at <https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees> (the “Guidance”).

competition; (ii) comply with the BOX Order and the Guidance; (iii) are supported by evidence (including comprehensive revenue and cost data and analysis) that they are fair and reasonable because they do not result in excessive pricing or supra-competitive profit; and (iv) utilize a cost-based justification framework that is substantially similar to a framework previously used by the Exchange (and its affiliates) to establish comparable access fees, including connectivity fees and port fees, for its options market. Accordingly, the Exchange believes that the Commission should find that the Proposed Fees are consistent with the Act.

The Exchange is not aware of any reason why market participants could not simply drop their connections to an exchange (or not connect to an exchange) if an exchange were to establish prices for its non-transaction fees that, in the determination of such market participant, did not make business or economic sense for such market participant to connect to such exchange. No market participant is required by rule, regulation, or competitive forces to be a Member of the Exchange or MIAX PEARL Equities. As evidence of the fact that market participants can and do disconnect from exchanges based on non-transaction fee pricing, R2G Services LLC (“R2G”) filed a comment letter after BOX’s proposed rule changes to increase its connectivity fees (SR-BOX-2018-24, SR-BOX-2018-37, and SR-BOX-2019-04).³⁰ The R2G Letter stated, “[w]hen BOX instituted a \$10,000/month price increase for connectivity; we had no choice but to terminate connectivity into them as well as terminate our market data relationship. The cost benefit analysis just didn’t make any sense for us at those new levels.”³¹ As further evidence of the fact that market participants can and do disconnect from exchanges based on non-transaction fee pricing, a member of the Exchange’s affiliate, MIAX Emerald,

³⁰ See Letter from Stefano Durdic, R2G, to Vanessa Countryman, Acting Secretary, Commission, dated March 27, 2019 (the “R2G Letter”).

³¹ See id.

recently discontinued the use of MIAX Emerald's connectivity and port services as a result of MIAX Emerald increasing connectivity fees and establishing certain port fees. Accordingly, these examples show that if an exchange sets too high of a fee for connectivity and/or other non-transaction fees for its relevant marketplace, market participants can choose to disconnect from such exchange.

The Exchange believes its proposal to include a Definitions section in the Fee Schedule promotes just and equitable principles of trade, removes impediments to and perfects the mechanism of a free and open market and a national market system, and, in general protects investors and the public interest and is not designed to permit unfair discrimination between customers, issuers, brokers and dealers. The Exchange believes that the proposal to adopt a Definitions section in the beginning of the Fee Schedule will provide greater clarity to Equity Members, non-Members, market participants and the public regarding the Exchange's fees and rebates, and it is in the public interest for the Fee Schedule to be transparent, comprehensive and user-friendly so as to eliminate the potential for confusion.

The Exchange believes that its proposal is consistent with Section 6(b)(4) of the Act because the Proposed Access Fees will permit recovery (less than all) of the Exchange's costs and will not result in excessive or supra-competitive profit. The Proposed Access Fees will allow the Exchange to recover a portion (less than all) of the costs incurred by the Exchange associated with providing and maintaining the necessary hardware and other infrastructure as well as network monitoring and support services in order to provide the services associated with the Proposed Access Fees. The Exchange believes that it is reasonable and appropriate to establish its fees charged for the services associated with the Proposed Access Fees at levels that will partially offset the costs to the Exchange associated with maintaining and enhancing a state-of-the-art exchange network infrastructure in the U.S. equities industry.

The costs associated with building out and maintaining a state-of-the-art network infrastructure are extensive. This is due to several factors, including costs associated with maintaining and expanding a team of highly-skilled network engineers, fees charged by the Exchange's third-party data center operator, costs associated with projects and initiatives designed to improve overall network performance and stability through the Exchange's research and development ("R&D") efforts, and costs associated with fully-supporting advances in infrastructure and expansion of network level services, including customer monitoring, alerting and reporting. The Exchange incurs significant technology expense related to establishing and maintaining Information Security services, enhanced network monitoring and customer reporting, as well as Regulation SCI mandated processes, associated with its network technology. While some of the expense is fixed, much of the expense is not fixed, and thus increases as the number of connections and ports increase. For example, new 1Gb ULL and 10Gb ULL connections require the purchase of additional hardware to support those connections as well as enhanced monitoring and reporting of customer performance that the Exchange and its affiliates provide. Further, 10Gb ULL connections require the purchase of specialized, more costly hardware. As the total number of all connections increase, the Exchange needs to increase its data center footprint and consume more power, resulting in increased costs charged by its third-party data center providers. Accordingly, the cost to the Exchange to provide access to its network and trading infrastructure is not entirely fixed.

Further, because the costs of operating a data center are significant and not economically feasible for the Exchange, the Exchange does not operate its own data centers, and instead contracts with a third-party data center provider. The Exchange notes that larger, well-established exchange operators own/operate their data centers, which offers them greater control over their data center costs. Because those exchanges own and operate their data

centers as profit centers, the Exchange is subject to additional costs. Fees for the services associated with the Proposed Access Fees, which are charged for accessing the Exchange's data center network infrastructure, are directly related to the network and offset such costs.

Further, the Exchange invests significant resources in network R&D to continuously improve the overall performance and stability of its network. For example, the Exchange has a number of network monitoring tools (some of which were developed in-house, and some of which are licensed from third-parties), that continually monitor, detect, and report network performance, many of which serve as significant value-adds to Equity Members and enable the Exchange to provide a high level of customer service. These tools detect and report performance issues, and thus enable the Exchange to proactively notify an Equity Member (and the SIPs) when the Exchange detects a problem with an Equity Member's connectivity. In fact, the Exchange's affiliate options exchanges, MIAX and MIAX Emerald, often receive inquiries from other industry participants regarding the status of networking issues outside of the Exchange's own network environment that are impacting the industry as a whole via the SIPs, including inquiries from regulators, because the Exchange has a superior, state-of-the-art network that, through its enhanced monitoring and reporting solutions, often detects and identifies industry-wide networking issues ahead of the SIPs. The Exchange also incurs costs associated with the maintenance and improvement of existing tools and the development of new tools.

Also, routine R&D projects to improve the performance of the network's hardware infrastructure result in additional cost. In sum, the costs associated with maintaining and enhancing a state-of-the-art exchange network in the U.S. equity securities industry is a significant expense for the Exchange that is projected to increase year-over-year, and thus the Exchange believes that it is reasonable to offset a portion of those costs through establishing

the Proposed Access Fees, which are designed to recover those costs, as described herein. Overall, the Proposed Access Fees are projected to offset only a portion of the Exchange's services associated with the Proposed Access Fees. The Exchange invests in and offers a superior network infrastructure as part of its overall exchange services offering, resulting in significant costs associated with maintaining this network infrastructure, which are directly tied to the amount of the Proposed Access Fees that must be charged to access it, in order to recover those costs.

The Exchange believes it is reasonable to consider the expense and revenue for ports and connectivity alternatives together because ports and connectivity are inextricably linked components of the network infrastructure, and that both are necessary for a market participant to access the Exchange. The various types of connectivity and port alternatives that the Exchange offers provide a wide array of access alternatives necessary for a market participant to conduct its business using the Exchange, which is a business decision to be made by each particular type of market participant. The different types of connectivity and port alternatives allows Equity Members to conduct their different business strategies – some Equity Members put an emphasis on speed, while others emphasize other strategies, such as redundancy and certainty of execution. The Exchange does not require an Equity Member to have a certain framework for accessing the Exchange, but provides various connectivity and port alternatives for each Equity Member's distinct business lines.

The Exchange offers various types of ports with differing prices because each port accomplishes different tasks, are suited to different types of Equity Members, and consume varying capacity amounts of the network. For instance, MEO ports allow for a higher throughput and can handle much higher order rates than FIX ports. Equity Members that are Market Makers or high frequency trading firms utilize these ports (typically coupled with 10Gb

ULL connectivity) because they transact in significantly higher amounts of messages being sent to and from the Exchange, versus FIX port users, who are traditionally customers sending only orders to the Exchange (typically coupled with 1Gb connectivity). The different types of ports cater to the different types of Exchange Memberships and different capabilities of the various Exchange Members. Market Makers have quoting and other obligations that traditional customers do not. Market Makers, therefore, need ports and connections that can handle using far more of the network's capacity for message throughput, risk protections, and the amount of information that has to be assessed. Market Makers account for the vast majority of network capacity utilization and volume executed on the Exchange.

The Exchange only has four primary sources of revenue: transaction fees, access fees (of which the Proposed Access Fees constitute the majority), regulatory fees, and market data fees. Accordingly, the Exchange must cover all of its expenses from these four primary sources of revenue.

The Exchange believes that the Proposed Access Fees are fair and reasonable because they will not result in excessive pricing or supra-competitive profit, when comparing the total annual expense that the Exchange projects to incur in connection with providing the services associated with the Proposed Access Fees versus the total annual revenue of the Exchange projects to collect in connection with providing those services. For 2020³², the total annual expense³³ for providing the services associated with the Proposed Access Fees for MIAX PEARL Equities is projected to be approximately \$8.4 million. The \$8.4 million in expense includes expense associated with providing all ports and all connectivity alternatives. The

³² The Exchange has not yet finalized its 2020 year end results.

³³ The Exchange notes that the total expense figures for each of the external and internal expenses described herein relate only to the Exchange's equities market. No expense relating to the Exchange's options market is included in this filing.

Exchange is unable to separate out its expense by connectivity alternative, as all connectivity alternatives are intricately combined in a single network infrastructure. Nevertheless, the Exchange attributes the majority of connectivity expense to the 10Gb ULL connections because the majority of network capacity is used by 10Gb ULL purchasers. The \$8.4 million in projected total annual expense is comprised of the following, all of which are directly related to the services associated with the Proposed Access Fees by MIAX PEARL Equities to its Equity Members and non-Members: (1) third-party expense, relating to fees paid by MIAX PEARL Equities to third-parties for certain products and services; and (2) internal expense, relating to the internal costs of MIAX PEARL Equities to provide the services associated with the Proposed Access Fees. The \$8.4 million in projected total annual expense is directly related to the services associated with the Proposed Access Fees and not any other product or service offered by the Exchange. It does not include general costs of operating matching systems and other trading technology, and no expense amount was allocated twice.

As discussed, the Exchange conducted an extensive review in which the Exchange analyzed every expense item in the Exchange's general expense ledger (this includes over 150 separate and distinct expense items) to determine whether each such expense relates to the services associated with the Proposed Access Fees, and, if such expense did so relate, what portion (or percentage) of such expense actually supports those services, and thus bears a relationship that is, "in nature and closeness," directly related to those services. The sum of all such portions of expenses represents the total cost of the Exchange to provide the services associated with the Proposed Access Fees.

For 2020, total actual and projected third-party expense, relating to fees paid by the Exchange to third-parties for certain products and services for the Exchange to be able to provide the services associated with the Proposed Access Fees, was \$1,492,112. This includes,

but is not limited to, a portion of the fees paid to: (1) Equinix, for data center services, for the primary, secondary, and disaster recovery locations of the MIAX PEARL Equities trading system infrastructure; (2) Zayo Group Holdings, Inc. (“Zayo”) for connectivity services (fiber and bandwidth connectivity) linking MIAX PEARL Equities’ office locations in Princeton, New Jersey and Miami, Florida to all data center locations; (3) Secure Financial Transaction Infrastructure (“SFTI”), which supports connectivity and feeds for the entire equity securities industry; (4) various other services providers (including Thompson Reuters, NYSE, Nasdaq, Internap, and Options IT), which provide content, connectivity services, infrastructure services, and market data services; and (5) various other hardware and software providers (including Dell and Cisco, which support the production environment).

For clarity, only a portion of all fees paid to such third-parties is included in the third-party expense herein (only the portions that actually support the services associated with the Proposed Access Fees), and no expense amount is allocated twice. Accordingly, the Exchange does not allocate its entire information technology and communication costs to the services associated with the Proposed Access Fees.

The Exchange believes it is reasonable to allocate such third-party expense described above towards the total cost to the Exchange to operate and support the network, including providing the services associated with the Proposed Access Fees.³⁴ In particular, the Exchange believes it is reasonable to allocate the identified portions of the Equinix expense because Equinix operates the data centers (primary, secondary, and disaster recovery) that host the Exchange’s network infrastructure, which enables the services associated with the Proposed

³⁴ The Exchange notes that the below allocation percentages are the percentage of the total cost incurred by MIAX PEARL Equities and not costs related to operating the Exchange’s options trading platform. See also id.

Access Fees. This includes, among other things, the necessary storage space, which continues to expand and increase in cost, power to operate the network infrastructure, and cooling apparatuses to ensure the Exchange's network infrastructure maintains stability. Without these services from Equinix, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the Equinix expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to operating and supporting the network, approximately 73% of the total Equinix expense (68% allocated towards the cost of providing the provision of network connectivity and 5% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

The Exchange believes it is reasonable to allocate the identified portions of the Zayo expense because Zayo provides the internet, fiber and bandwidth connections with respect to the network, linking MIAX PEARL Equities with the Exchange's affiliates, MIAX and MIAX Emerald, as well as the data center and disaster recovery locations. As such, all of the trade data flow through Zayo's infrastructure over the Exchange's network. Without these services from Zayo, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the Zayo expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access Fees, approximately 66% of the total Zayo expense (62% allocated towards

the cost of providing the provision of network connectivity and 4% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

The Exchange believes it is reasonable to allocate the identified portions of the SFTI expense and various other service providers' (including Thompson Reuters, NYSE, Nasdaq, Internap, and Options IT) expense because those entities provide connectivity and feeds for the entire U.S. securities industry as well as the content, connectivity services, infrastructure services, and market data services for critical components of the network. Without these services from SFTI and various other service providers, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the SFTI and other service providers' expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access Fees, approximately 94% of the total SFTI and other service providers' expense (89% allocated towards the cost of providing the provision of network connectivity and 5% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

The Exchange believes it is reasonable to allocate the identified portion of the other hardware and software provider expense because this includes costs for dedicated hardware licenses for switches and servers, as well as dedicated software licenses for security monitoring and reporting across the network. Without this hardware and software, the Exchange would not

be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the hardware and software provider expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access Fees, approximately 57% of the total hardware and software provider expense (54% allocated towards the cost of providing the provision of network connectivity and 3% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

For 2020, total projected internal expense, relating to the internal costs of the Exchange to provide the services associated with the Proposed Access Fees, is projected to be \$6,905,858. This includes, but is not limited to, costs associated with: (1) employee compensation and benefits for full-time employees that support the services associated with the Proposed Access Fees, including staff in network operations, trading operations, development, system operations, business, etc., as well as staff in general corporate departments (such as legal, regulatory, and finance) that support those employees and functions; (2) depreciation and amortization of hardware and software used to provide the services associated with the Proposed Access Fees, including equipment, servers, cabling, purchased software and internally developed software used in the production environment to support those services for trading; and (3) occupancy costs for leased office space for staff that support the services associated with the Proposed Access Fees. The breakdown of these costs is more fully-described below.

For clarity, only a portion of all such internal expenses are included in the internal

expense herein (only the portions that support the services associated with the Proposed Access Fees), and no expense amount is allocated twice. Accordingly, the Exchange does not allocate its entire costs contained in those line items to the services associated with the Proposed Access Fees.

The Exchange believes it is reasonable to allocate such internal expense described above towards the total cost to the Exchange to operate and support the network, including providing the services associated with the Proposed Access Fees. In particular, MIAX PEARL Equities' employee compensation and benefits expense relating to providing the services associated with the Proposed Access Fees is projected to be \$4,317,667, which is only a portion of the \$13,492,708 total projected expense for employee compensation and benefits. The Exchange believes it is reasonable to allocate the identified portions of each expense because they include the time spent by employees of several departments, including Technology, Back Office, Systems Operations, Networking, Business Strategy Development (who create the business requirement documents that the Technology staff use to develop network features and enhancements), Trade Operations, Finance (who provide billing and accounting services), and Legal (who provide legal services, such as rule filings and various license agreements and other contracts). As part of the extensive cost review conducted by the Exchange, the Exchange reviewed the amount of time spent by each employee on matters relating to the operation and support of the network, including the services associated with the Proposed Access Fees. Without these employees, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the employee compensation and benefits expense toward the cost of providing the services associated with the Proposed Access Fees, only that portion which the Exchange identified as being specifically

mapped to providing the services associated with Proposed Access Fees, approximately 32% of the total employee compensation and benefits expense (29% allocated towards the cost of providing the provision of network connectivity and 3% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

MIAX PEARL Equities' depreciation and amortization expense relating to providing the services associated with the Proposed Access Fees is projected to be \$2,131,411, which is only a portion of the \$2,664,264 total projected expense for depreciation and amortization. The Exchange believes it is reasonable to allocate the identified portions of such projected 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 the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. The Exchange did not allocate all of the projected depreciation and amortization expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the Exchange identified as being specifically mapped to providing the services associated with the Proposed Access Fees, approximately 80% of the total depreciation and amortization expense (76% allocated towards the cost of providing the provision of network connectivity and 4% allocated towards the cost of providing ports). The services associated with the Proposed Access Fees would not be possible without relying on such equipment. The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated

with the Proposed Access Fees, and not any other service, as supported by its cost review.

MIAX PEARL Equities' occupancy expense relating to providing the services associated with the Proposed Access Fees is projected to be \$456,780, which is only a portion of the \$878,423 total projected expense for occupancy. The Exchange believes it is reasonable to allocate the identified portions of such projected expense because such expense represents the portion of the Exchange's cost to rent and maintain a physical location for the Exchange's staff who operate and support the network, including providing the services associated with the Proposed Access Fees. These amounts consist primarily of rent for the Exchange's Princeton, New Jersey office, as well as various related costs, such as physical security, property management fees, property taxes, and utilities. The Exchange operates its Network Operations Center ("NOC") and Security Operations Center ("SOC") from its Princeton, New Jersey office location. A centralized office space is required to house the staff that operates and supports the network. The Exchange currently has approximately 150 employees (and continues to increase its headcount to support the network as the Exchange, and its affiliates, grow the network). Approximately two-thirds of the Exchange's staff are in the Technology department, and the majority of those staff members have some role in the operation and performance of the network. Without this office space, the Exchange would not be able to operate and support the network and provide the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. Accordingly, the Exchange believes it is reasonable to allocate the identified portions of its occupancy expense because such amounts represent the Exchange's actual cost to house the equipment and personnel who operate and support the Exchange's network infrastructure for the services associated with the Proposed Access Fees. The Exchange did not allocate all of the projected occupancy expense toward the cost of providing the services associated with the Proposed Access Fees, only the portions which the

Exchange identified as being specifically mapped to providing the services associated with the Proposed Access, approximately 52% of the total occupancy expense (48% allocated towards the cost of providing the provision of network connectivity and 4% allocated towards the cost of providing ports). The Exchange believes these allocations are reasonable because they represent the Exchange's actual cost to provide the services associated with the Proposed Access Fees, and not any other service, as supported by its cost review.

The Exchange notes that a material portion of its total overall expense is allocated to the provision of services associated with the Proposed Access Fees. The Exchange believes this is reasonable and in line, as the Exchange operates a technology-based business that differentiates itself from its competitors based on its trading systems that rely on its high performance network, resulting in significant technology expense. Over two-thirds of Exchange staff are technology-related employees. The majority of the Exchange's expense is technology-based. As described above, the Exchange has only four primary sources of fees in to recover its costs, thus the Exchange believes it is reasonable to allocate a material portion of its total overall expense towards the Proposed Access Fees.

The Exchange's monthly revenue for the Proposed Access Fees is based on the following purchases by Equity Members and non-Members during a recent billing cycle: (i) 12 1Gb ULL connections; (ii) 81 10Gb ULL connections; and (iii) 103 MEO Ports. The monthly revenue from Port fees is subject to change from month to month depending on the number of Ports purchased. Accordingly, the Exchange's total monthly Port revenue was \$22,800 and total 1 Gb and 10Gb ULL connectivity revenue was \$295,500. The Exchange notes that the port revenue projections are subject to change depending on market participant needs and the tiers achieved. As such, the projection of \$295,500 per month is not a static number and may fluctuate from month to month.

Accordingly, based on the facts and circumstances presented, the Exchange believes that its provision of the services associated with the Proposed Access Fees will not result in excessive pricing or supra-competitive profit. To illustrate, on a going-forward, fully-annualized basis, the Exchange projects that its annualized revenue for providing the services associated with the Proposed Access Fees would be approximately \$3,600,000 per annum, based on a recent billing cycle. The Exchange projects that its annualized expense for providing the services associated with the Proposed Access Fees would be approximately \$8,400,000 per annum. Accordingly, on a fully-annualized basis, the Exchange believes its total projected revenue for the providing the services associated with the Proposed Access Fees will not result in excessive pricing or supra-competitive profit, as the Exchange will incur a loss of \$4,800,000 on the Proposed Access Fees ($\$3.6 \text{ million} - \$8.4 \text{ million} = (\$4.8 \text{ million per annum})$).

For the avoidance of doubt, none of the expenses included herein relating to the services associated with the Proposed Access Fees relate to any other services offered by MIAX PEARL Equities. Stated differently, no expense amount of the Exchange is allocated twice. The Exchange notes that, with respect to MIAX PEARL Equities expenses included herein, those expenses only cover the MIAX PEARL Equities market; expenses associated with the Exchange's options trading platform, its affiliate exchanges, MIAX and MIAX Emerald, are accounted for separately and are not included within the scope of this filing. Stated differently, no expense amount of the Exchange is also allocated to its options trading platform, MIAX or MIAX Emerald.

The Exchange believes it is reasonable, equitable and not unfairly discriminatory to allocate the respective percentages of each expense category described above towards the total cost to the Exchange of operating and supporting the network, including providing the services

associated with the Proposed Access Fees, because the Exchange performed a line-by-line item analysis of all the expenses of the Exchange, and has determined the expenses that directly relate to operation and support of the network, including the services associated with the Proposed Access Fees. Further, the Exchange notes that, without the specific third-party and internal items listed above, the Exchange would not be able to operate and support the network, including the services associated with the Proposed Access Fees to Equity Members and non-Members and their customers. Each of these expense items, including physical hardware, software, employee compensation and benefits, occupancy costs, and the depreciation and amortization of equipment, have been identified through a line-by-line item analysis to be integral to the operation and support of the network. The Proposed Access Fees are intended to recover the Exchange's costs (less than all) of operating and supporting the network, including providing the services associated with the Proposed Access Fees.

Accordingly, the Proposed Access Fees are fair and reasonable because they do not result in excessive pricing or supra-competitive profit, when comparing the actual network operation and support costs to the Exchange versus the projected revenue for the services associated with the Proposed Access Fees.

The Exchange notes that other equities exchanges have similar connectivity alternatives for their participants, including similar low-latency connectivity. For example, the Nasdaq Stock Market LLC ("Nasdaq"), Nasdaq PHLX LLC ("Phlx"), and Nasdaq ISE, LLC ("ISE") all offer a 1Gb, 10Gb and 10Gb low latency ethernet connectivity alternatives to each of their participants.³⁵ NYSE Arca, Inc. ("NYSE Arca"), NYSE American LLC ("NYSE American"),

³⁵ See Nasdaq, Phlx and ISE General Rules, General 8, Section 1(b). Nasdaq, Phlx and ISE each charge a monthly fee of \$2,500 for each 1Gb connection, \$10,000 for each 10Gb connection and \$15,000 for each 10Gb Ultra connection, which is the equivalent of the Exchange's 10Gb ULL connection.

NYSE Chicago, Inc. (“NYSE Chicago”) and NYSE National, Inc. (“NYSE National”) all offer a 1Gb and 10Gb low latency ethernet connectivity alternatives to each of their participants.³⁶ The Exchange notes that all the other equities exchanges described above charge higher rates for such similar connectivity to primary and secondary facilities. While the Exchange’s proposed connectivity fees are substantially lower than the fees charged by Nasdaq, Phlx, ISE, NYSE America, NYSE Arca, NYSE Chicago and NYSE National, the Exchange believes that it can offer significant value to Equity Members over other exchanges in terms of network monitoring and reporting, which the Exchange believes is a competitive advantage, and differentiates its access services versus access services at other exchanges. Additionally, the Exchange’s proposed connectivity fees to its disaster recovery facility are within the range of the fees charged by other exchanges for similar connectivity alternatives.³⁷ The Exchange also notes that other equities exchanges have similar port alternatives for their participants, with similar or substantially higher fees.³⁸

Historical Data

The Exchange believes the proposed fee for Historical Data is a reasonable allocation of

³⁶ See NYSE American Fee Schedule, NYSE Arca Fee Schedule, NYSE Chicago Fee Schedule and NYSE National Fee Schedule, Co-Location Fees. NYSE American, NYSE Arca, NYSE Chicago and NYSE National each charge a monthly fee of \$5,000 for each 1Gb circuit and \$22,000 for each 10Gb LX circuit, which is the equivalent of the Exchange’s 10Gb ULL connection.

³⁷ See Cboe EDGA Exchange, Inc. (“EDGA”) and Cboe EDGX Exchange, Inc. (“EDGX”) Fee Schedules, Physical Connectivity Fees, (charging a monthly fee of \$2,000 for a 1Gb disaster recovery network access port and a monthly fee of \$6,000 for a 10Gb disaster recovery network access port).

³⁸ See Nasdaq Fee Schedule, Equity Rules, Equity 7, Pricing Schedule, Ports (charging \$575 per FIX port per month); Phlx Fee Schedule, Equity Rules, Equity 7, Pricing Schedule, Section 3 Nasdaq PSX Fees (charging \$400 per FIX port per month); EDGX Fee Schedule, Logical Port Fees (charging \$550 per Logical Port per month and \$650 per Purge port per month).

its costs and expenses among its Equity Members and other persons using its facilities since it is recovering the costs associated with distributing such data should an Equity Member request Historical Data. Access to the Exchange is provided on fair and non-discriminatory terms. The Exchange believes the proposed fee for Historical Data is equitable and not unfairly discriminatory because the fee level results in a reasonable and equitable allocation of fees amongst users for similar services. Moreover, the decision as to whether or not to purchase Historical Data is entirely optional to all users. Potential purchasers are not required to purchase the Historical Data, and the Exchange is not required to make the Historical Data available. Purchasers may request the data at any time or may decline to purchase such data. The allocation of fees among users is fair and reasonable because, if the market deems the proposed fees to be unfair or inequitable, firms can diminish or discontinue their use of this data.

The Exchange believes that the proposed fee for Historical Data is consistent with Section 6(b)(4) of the Act because the Proposed Access Fees will permit recovery of the Exchange's costs and will not result in excessive or supra-competitive profit. The proposed fee for Historical Data will allow the Exchange to recover a portion (less than all) of the costs incurred by the Exchange associated with providing and maintaining the necessary hardware and other infrastructure as well as network monitoring and support services in order to provide Historical Data. The Exchange believes that it is reasonable and appropriate to establish a fee for Historical Data at a level that will partially offset the costs to the Exchange associated with maintaining and providing Historical Data. For example, Historical Market Data is uploaded onto an Exchange-provided device. Each device shall have a maximum storage capacity of 8 terabytes. The Exchange incurs costs in providing the device, storing the historical data, and utilizing resources to upload the data onto the device. Specifically, the device provided by the Exchange costs approximately \$200 to \$300. Moreover, the Exchange tracks the number of

hours spent by Exchange personnel procuring Historical Market Data. Based on the average number of person hours spent by the Exchange on procuring Historical Market Data, and based on the Exchange's average cost per full-time employee ("FTE") of approximately \$250,000 (inclusive of all compensation and employee benefits) per year, the Exchange represents that its cost to provide this service is reasonably related to (and often exceeds) the amount of the Historical Market Data fee the Exchange proposes to charge for such service. Therefore, the FTE cost to the Exchange on average \$130 an hour and it takes approximately four FTE hours to process a request for Historical Market Data. Accordingly, the proposed Historical Market Data fee would enable the Exchange to recover a material portion of its costs to provide Historical Market Data. The Exchange believes this is a conservative cost allocation because the Exchange is not allocating any additional costs beyond the employee compensation for employees directly involved in this process and the cost of the device. These unallocated addition costs include technology costs of employees, office space costs of employees, costs associated with supporting departments' time for things such as internal meetings, project management coordination among the individuals who indirectly support the provision of Historical Market Data, and various other indirectly-related costs.

The Exchange also notes that its proposed fee is identical to that it charges today for options historical data and less than that charged by other exchanges for their own historical data. For example, all four of the Cboe equity exchanges charge a fee of \$500 for one month of historical data and \$2,500 for one terabyte drive of data.³⁹

Pass-Through of External Connectivity Fees

The Exchange believes that the proposed pass-through of external connectivity fees

³⁹ See, e.g., Cboe BZX Exchange, Inc. fee schedule [available at https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/](https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/).

constitutes an equitable allocation of fees, and is not unfairly discriminatory, because it allows the Exchange to recover costs associated with offering access through the network connections, responding to customer requests, configuring MIAX PEARL Equities' systems, programming API user specifications and administering the various services. Access to the MIAX PEARL Equities market is offered on fair and non-discriminatory terms.

The Exchange believes it is reasonable, equitable and not unfairly discriminatory to pass-through External Connectivity fees to Equity Members and non-Members that establish connections with MIAX PEARL Equities through a third-party. MIAX PEARL Equities will only pass-through the actual costs it is charged by third-party external vendors. The Exchange believes it is reasonable and equitable to recover costs charged it on behalf of an Equity Member or non-Member that establishes connections with MIAX PEARL Equities through a third party. Other exchanges, including EDGX and EDGA, charge a fee for similar services to their members and non-members.

Technical Support Request Fee

The Exchange believes that the proposed Technical Support Request fee is fair, equitable and not unreasonably discriminatory, because it is assessed equally to all Equity Members and non-Members who request technical support. Furthermore, Equity Members and non-Members are not required to use the service but instead it is offered as a convenience to all Equity Members and non-Members. The proposed fee is reasonably designed because it will permit both Equity Members and non-Members to request the use of the Exchange's on-site data center personnel as technical support and as a convenience in order to test or otherwise assess their connectivity to the Exchange and the fee is within the range of the fee charged by other exchanges for similar services and is identical to the same fee assessed by the Exchange today for options as well as the Exchange's affiliates, MIAX and MIAX Emerald.

As discussed above, the Exchange's average cost per FTE of approximately \$250,000 (inclusive of all compensation and employee benefits) per year, the Exchange represents that its cost to provide this service is reasonably related to (and often exceeds) the amount of the Technical Support fee the Exchange proposes to charge for such service. Therefore, the cost to the Exchange to provide an employee to provide technical support is approximately \$130 per FTE. Also, more than one FTE may be involved depending on the nature of the request. Accordingly, the proposed per hour fee for technical support would enable the Exchange to recover a material portion of such cost. The Exchange believes this is a conservative cost allocation because the Exchange is not allocating any additional costs beyond the employee compensation costs for employees directly involved in this process. These unallocated addition costs include costs associated with potential management review and sign off, technology costs of employees, office space costs of employees, costs associated with supporting departments' time for things such as internal meetings, project management coordination among the individuals who indirectly support the technology support process, and various other indirectly-related costs.

* * * * *

Finally, the Exchange notes that it operates in a highly competitive market in which market participants can readily favor competing venues. In such an environment, the Exchange must establish fees that are competitive with other exchanges. For the reasons described above, the Exchange believes that the proposed fees in the MIAX PEARL Equities Fee Schedule appropriately reflect this competitive environment.

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

The Exchange believes that the Proposed Fees do not place certain market participants at a relative disadvantage to other market participants because the pricing of the Proposed Fees is

associated with relative usage of the various market participants and does not impose a barrier to entry to smaller participants. The Exchange believes the Proposed Fees do not favor certain categories of market participants in a manner that would impose a burden on competition; rather, the allocation of the Proposed Fees reflects the network and access resources consumed by various market participants.

The Exchange believes the Proposed Fees do not place an undue burden on competition on other SROs that is not necessary or appropriate. Additionally, other equity exchanges have similar connectivity and port alternatives for their participants, including similar low-latency connectivity, but with much higher rates to connect.⁴⁰ The Exchange is also unaware of any assertion that the Proposed Fees would somehow unduly impair its competition with other equities exchanges. To the contrary, if the fees charged are deemed too high by market participants, they can simply not connect to the Exchange or not use the services associated with the Proposed Access Fees.

While the Exchange recognizes the distinction between connecting to an exchange and trading at the exchange, the Exchange notes that it plans to operate in a highly competitive market in which market participants can readily connect and trade with venues they desire. In such an environment, the Exchange must continually adjust its fees to remain competitive with other exchanges. The Exchange believes that the Proposed Fees reflect this competitive environment.

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

Written comments were neither solicited nor received.

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

⁴⁰ See supra notes 35 through 38.

The foregoing rule change has become effective pursuant to Section 19(b)(3)(A)(ii) of the Act,⁴¹ and Rule 19b-4(f)(2)⁴² 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 (<http://www.sec.gov/rules/sro.shtml>);
- or
- Send an e-mail [to rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-PEARL-2021-02 on the subject line.

Paper comments:

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

All submissions should refer to File Number SR-PEARL-2021-02. This file number should be included on the subject line if e-mail is used. To help the Commission process and

⁴¹ 15 U.S.C. 78s(b)(3)(A)(ii).

⁴² 17 CFR 240.19b-4(f)(2).

review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (<http://www.sec.gov/rules/sro.shtml>).

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

All submissions should refer to File Number SR-PEARL-2021-02 and should be submitted on or before [insert date 21 days from publication in the Federal Register]. For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.⁴³

Vanessa Countryman
Secretary

⁴³ 17 CFR 200.30-3(a)(12).

Exhibit 5

New text is underlined;
Deleted text is in [brackets]

MIAX PEARL Equities Fee Schedule

Definitions

For purposes of assessing fees, the following definitions should serve as guidance. Unless otherwise specified, capitalized terms used in this fee schedule are defined as set forth in the MIAX PEARL Equities Rules. Rebates and fees are listed per share unless otherwise noted.

“Cross-connect” occurs when the affected third-party system is sited at the same data center where MIAX PEARL Equities systems are sited, and the third-party connects to MIAX PEARL Equities through the data center, rather than connecting directly to MIAX PEARL Equities outside of the data center.

“Exchange System Disruption” means an outage of a Matching Engine or collective Matching Engines for a period of two consecutive hours or more, during trading hours.

“Extranet Provider” means a technology provider that connects with MIAX PEARL Equities systems and in turn provides such connectivity to MIAX PEARL Equities participants that do not connect directly with MIAX PEARL Equities.

“FIX Order by Order” means a type of FXD Port that sends all order activities other than reject message, including Execution Reports and Trade Cancel/Correct messages.

“FIX Order Interface” or “FOI” means the Financial Information Exchange interface for certain order types as set forth in Exchange Rule 2614.

“FIX Port” means a FIX port that allows Equity Members to send orders and other messages using the FIX protocol.

“Full Service Port” or “FSP” means an MEO port that supports all MEO order input message types.

“FIX Drop Port” or “FXD” means a messaging interface that provides real-time order activities of firms’ MEO and FOI orders. MIAX PEARL Equities offers two types of FXD ports: (1) Standard FIX Drop; and (2) FIX Order by Order Drop. FXD Ports may be used by Equities Market Makers, Order Entry Firms and clearing firms.

“MENI” means the MIAX Express Network Interconnect, which is a network infrastructure which provides Equity Members and non-Members network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facilities of the Exchange. The MENI consists of the low latency and ultra-low latency (“ULL”) connectivity options set forth in the Exchange’s Fee Schedule.

“MEO Interface” or “MEO” means a binary order interface for certain order types as set forth in Rule 2614 into the MIAX PEARL System. See Exchange Rule 100.

“Service Bureau” means a technology provider that offers and supplies technology and technology services to a trading firm that does not have its own proprietary system.

“Standard FIX Drop” means an FXD Port that only sends trade information, including Execution Reports and Trade Cancel/Correct messages.

“Third Party Vendor” means a subscriber of MIAX PEARL Equities’ market and other data feeds, which they in turn use for redistribution purposes.

“Waiver Period” means, for each applicable fee, the period of time from the initial effective date of the MIAX PEARL Equities Fee Schedule until such time that MIAX PEARL has an effective fee filing establishing the applicable fee. MIAX PEARL Equities will issue a Regulatory Circular announcing the establishment of an applicable fee that was subject to a Waiver Period at least fifteen (15) days prior to the termination of the Waiver Period and effective date of any such applicable fee.

* * * * *

2) System Connectivity Fees

a) Monthly Member Network Connectivity Fee

<u>Member Network Connectivity Per Month</u>	<u>Primary/ Secondary Facility 1 Gigabit ULL Per Connection</u>	<u>Disaster Recovery Facility 1 Gigabit ULL Per Connection</u>	<u>Disaster Recovery Facility 10 Gigabit ULL Per Connection</u>	<u>Primary/ Secondary Facility 10 Gigabit ULL Per Connection</u>
<u>Individual Firm</u>	<u>\$1,000.00</u>	<u>\$1,000.00</u>	<u>\$3,000.00</u>	<u>\$3,500.00</u>

Monthly Member Network Connectivity fees for connectivity with the Primary/Secondary Facility will be assessed in any month the Member is credentialed to use any of the MIAX PEARL Equities APIs or Market Data feeds in the production environment and will be pro-rated when a Member makes a change to the connectivity (by adding or deleting connections) with such pro-rated fees based on the number of trading days that the Member has been credentialed to utilize any of the MIAX PEARL Equities APIs or Market Data feeds in the production environment through such connection, divided by the total number of trading days in such month multiplied by the applicable monthly rate. Monthly Member Network Connectivity fees for connectivity with the Disaster Recovery Facility will be assessed in each month during which the Member has established connectivity with the Disaster Recovery Facility.

b) Monthly Non-Member Network Connectivity Fee

<u>Non-Member Network Connectivity Per Month</u>	<u>Primary/ Secondary Facility 1 Gigabit ULL Per Connection</u>	<u>Disaster Recovery Facility 1 Gigabit ULL Per Connection</u>	<u>Disaster Recovery Facility 10 Gigabit ULL Per Connection</u>	<u>Primary/ Secondary Facility 10 Gigabit ULL Per Connection</u>
<u>Service Bureau/ Extranet Provider and other non-Members</u>	<u>\$1,000.00</u>	<u>\$1,000.00</u>	<u>\$3,000.00</u>	<u>\$3,500.00</u>

Monthly Non-Member Network Connectivity fees for connectivity with the Primary/Secondary Facility will be assessed in each month the Non-Member has been credentialed to use any of the MIAX PEARL Equities APIs or Market Data feeds via the network connection in the production environment and will be pro-rated when a Non-Member makes a change to the connectivity (by adding or deleting connections) with such pro-rated fees based on the number of trading days that the Non-Member has been credentialed to utilize any one of the two MIAX Exchanges’ APIs or Market Data feeds in the production environment through such connection, divided by the total number of trading days in such month multiplied by the applicable monthly rate. Monthly Non-Member Network Connectivity fees for connectivity with the Disaster Recovery Facility will be assessed in each month during which the Non-Member has established connectivity with the Disaster Recovery Facility.

c) Pass-Through of External Connectivity Fees

MIAX PEARL Equities will assess External Connectivity Fees to Members and non-Members that establish connections with MIAX PEARL Equities through a third-party. Fees assessed to MIAX PEARL Equities by third-party external vendors on behalf of a Member or non-Member connecting to MIAX PEARL Equities (including cross-connects), will be passed through to the Member or non-Member. The External Connectivity Fees passed through can include one-time set-up fees, monthly charges, and other fees charged to MIAX PEARL Equities by a third-party for the benefit of a Member or non-Member.

d) Port Fees

MIAX PEARL Equities will assess monthly Port Fees on Members in each month the Member is credentialed to use a Port in the production environment. The Port Fees assessable for FIX Ports, MEO Ports, and FXD Ports are as set forth in the table below. MIAX PEARL Equities has primary and secondary data centers and a disaster recovery center. Each Port provides access to all three data centers for a single fee. Unless otherwise specifically set forth in the Fee Schedule, the Port Fees include the information communicated through the Port at no additional charge.

<u>Type of Port</u>	Monthly Port Fees <u>Includes Connectivity to the Primary, Secondary and Disaster Recovery Data Centers</u>
<u>FIX Port</u> [^]	Per Port: <u>1st – 5th Fee Waived for the Waiver Period</u> <u>6th – 10th Fee Waived for the Waiver Period</u> <u>11th – 25th Fee Waived for the Waiver Period</u> 26 th – 50 th \$450 51 st – 75 th \$400 76 th – 100 th \$350 101 st or more \$300
<u>MEO Port</u> ^{^*}	Per Port: <u>1st – 5th Fee Waived for the Waiver Period</u> <u>6th – 10th Fee Waived for the Waiver Period</u> <u>11th – 25th Fee Waived for the Waiver Period</u> 26 th – 50 th \$450 51 st – 75 th \$400 76 th – 100 th \$350 101 st or more \$300

<u>FXD Port[^]</u>	<u>Fee Waived for the Waiver Period</u>
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- [^] Each port will have access to all Matching Engines.
- ^{*} The rates set forth above for MEO Ports entitle an Equity Member to one (1) FSP and one (1) Purge Port for all Matching Engines for a single port fee.
- MEO and FIX Ports are counted separately for the tiers in the table.

e) Member and Non-Member Technical Support Request Fee

Equity Members and Non-Members that request MIAX PEARL Equities technical support at any of the MIAX PEARL Equities data centers will be assessed a fee of \$200 per hour for such technical support.

3) Market Data Fees

a) MIAX PEARL Equities Top of Market (“ToM”) Feed

Fees Waived for the Waiver Period.

b) MIAX PEARL Equities Depth of Market (“DoM”) Feed

Fees Waived for the Waiver Period

c) Historical Market Data

<u>User Type</u>	<u>Fee Per Device</u>
<u>Members and Non- Members</u>	<u>\$500</u>

MIAX PEARL Equities will assess Market Data Fees applicable to Historical Market Data on users (Members and Non-Members) that request Historical Market Data on a per device basis. Historical Market Data consists of all proprietary trading data published by MIAX PEARL Equities through its proprietary market data feeds, from September 25, 2020 to the present (on a T+1 basis). Historical Market Data is uploaded onto an Exchange-provided device. Users may request up to six months of Historical Market Data per device, subject to the device’s storage capacity. Only the most recent six months of Historical Market Data shall be available for purchase from the date of the request.