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

File No. \* SR 2022 - \* 60

Amendment No. (req. for Amendments \*)

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"/>
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Pilot <input type="checkbox"/>	Extension of Time Period for Commission Action * <input type="checkbox"/>	Date Expires * <input type="text"/>
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Rule

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

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010

Section 806(e)(1) \*

Section 806(e)(2) \*

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

Exhibit 2 Sent As Paper Document

Exhibit 3 Sent As Paper Document

### Description

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

MIAX Pearl Options proposes to no longer operate its 10Gb network on a shared network with its affiliate, MIAX.

### 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 \* VP, Senior Counsel

E-mail \* csolgan@miami-holdings.com

Telephone \* (609) 423-9414 Fax

### Signature

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

Date 12/19/2022

(Title \*)

By Michael Slade

(Name \*)

AVP, Associate Counsel

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

Michael Slade Date: 2022.12.19 11:14:23 -05'00'

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SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

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

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

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SR-PEARL-2022-60 - 19b-4 (12-15-22)

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

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

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SR-PEARL-2022-60 - Exhibit 1.docx

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

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

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

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

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

Exhibit Sent As Paper Document

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

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

Exhibit Sent As Paper Document

**Exhibit 4 - Marked Copies**

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

**Exhibit 5 - Proposed Rule Text**

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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 “Exchange”), pursuant to the provisions of Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> proposes to no longer operate 10 gigabit (“Gb”) ultra-low latency (“ULL”) connectivity to the Exchange on a single shared network with its affiliate, Miami International Securities Exchange, LLC (“MIAX”), due to ever-increasing capacity constraints and to accommodate anticipated access needs for Members<sup>3</sup> and other market participants.

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

(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 June 16, 2022. 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.

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

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

<sup>3</sup> The term “Member” means an individual or organization that is registered with the Exchange pursuant to Chapter II of these Rules for purposes of trading on the Exchange as an “Electronic Exchange Member” or “Market Maker.” Members are deemed “members” under the Exchange Act. See Exchange Rule 100.

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

a. Purpose

The Exchange proposes to no longer operate 10Gb ULL connectivity to the Exchange on a single shared network with its affiliate, MIAX, due to ever-increasing capacity constraints and to accommodate anticipated access needs for Members and other market participants. The Exchange has shared a single network with MIAX since MIAX Pearl became operational on February 6, 2017.<sup>4</sup> On the contrary, the Exchange and its other affiliate, MIAX Emerald, LLC (“MIAX Emerald”), operate on separate, unshared 10Gb ULL networks, since the launch of MIAX Emerald in March 2019.<sup>5</sup> The Exchange believes this separated network structure is also similar to at least one other national securities exchange group with multiple exchanges.<sup>6</sup> Operating two separate national securities exchanges on a single shared network provided certain benefits, such as streamlined connectivity to multiple exchanges, and simplified exchange infrastructure. However, doing so is no longer sustainable due to ever-increasing capacity

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<sup>4</sup> See Press Release “MIAX PEARL Successfully Launches Trading Operations” (February 7, 2017), available at [https://www.miaxoptions.com/press-releases?\\_miax\\_filter\\_created%5Bmin%5D=2017-02-01+00%3A00%3A00&\\_miax\\_filter\\_created%5Bmax%5D=2017-02-28+23%3A59%3A59&actions=&\\_miax\\_filter\\_month=2&\\_miax\\_filter\\_year=2017](https://www.miaxoptions.com/press-releases?_miax_filter_created%5Bmin%5D=2017-02-01+00%3A00%3A00&_miax_filter_created%5Bmax%5D=2017-02-28+23%3A59%3A59&actions=&_miax_filter_month=2&_miax_filter_year=2017); see also Securities Exchange Act Release No. 79543 (December 13, 2016), 81 FR 92901 (December 20, 2016) (File No. 10-227) (order approving application of MIAX PEARL, LLC for registration as a national securities exchange).

<sup>5</sup> See Securities Exchange Act Release No. 87877 (December 31, 2019), 85 FR 738 (January 7, 2020) (SR-EMERALD-2019-39) (proposal to adopt connectivity fees without providing access to MIAX Emerald’s affiliates, MIAX and MIAX Pearl, via a single shared connection).

<sup>6</sup> See the Physical Connectivity Fees sections of the Cboe BYX Exchange, Inc. (“BYX”), Cboe BZX Exchange, Inc. (“BZX”), Cboe EDGA Exchange, Inc. (“EDGA”), and Cboe EDGX Exchange, Inc. (“EDGX”, collectively with BYX, BZX, and EDGA, the “Cboe Equity Exchanges”) equity fee schedules (not providing that a single port provides connectivity to each of Cboe Equity Exchanges).

constraints and current System<sup>7</sup> limitations. The network is not an unlimited resource. As described more fully below, the connectivity needs of Members and market participants increased every year since the launch of the Exchange and the operations of the Exchange and MIAX on a single shared 10Gb ULL network is no longer feasible. This requires constant System expansion to meet Member demand for additional ports and 10Gb ULL connections, which has resulted in limited available System headroom (described in detail below). Therefore, the Exchange proposes to provide 10Gb ULL connectivity to the Exchange and MIAX on separate networks so that the Exchange and MIAX may increase their respective System capacities to meet the ongoing and anticipated connectivity needs of Members, prospective Members, and other market participants.

The Exchange began to operate on a single shared network with MIAX when the Exchange commenced operations as a national securities exchange on February 7, 2017.<sup>8</sup> The Exchange and MIAX have operated on a single shared network to provide Members with a single convenient set of access points for both exchanges. Both the Exchange and MIAX offer two methods of connectivity, 1Gb and 10Gb ULL connections. The 1Gb connection services are supported by a discrete set of switches providing 1Gb access ports to Members. The 10Gb ULL connection services are supported by a second and mutually exclusive set of switches providing 10Gb ULL access ports to Members. Today, both the 1Gb and 10Gb ULL shared extranet ports

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<sup>7</sup> The term “System” means the automated trading system used by the Exchange for the trading of securities. See Exchange Rule 100.

<sup>8</sup> See Securities Exchange Act Release No. 80061 (February 17, 2017), 82 FR 11676 (February 24, 2017) (establishing MIAX Pearl Fee Schedule and establishing that the MENI can also be configured to provide network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facility of the MIAX Pearl’s affiliate, MIAX, via a single, shared connection).

allow Members to use one connection to access both exchanges, namely their trading platforms, market data systems, test systems, and disaster recovery facilities.

As stated above, the shared network is not an unlimited resource and its expansion is constrained by MIAX Pearl's and MIAX's ability to provide fair and equitable access to all market participants of both markets. The Exchange and MIAX continue to be able to meet the access demands of new subscribers and satisfy the ongoing access demands of existing subscribers. However, over time, due to the ever-increasing connectivity demands, the Exchange now finds it necessary to bifurcate 10Gb ULL connectivity to the Exchange's and MIAX's Systems and networks to be able to continue to meet ongoing and future 10Gb ULL connectivity and access demands. Currently, the Exchange maintains sufficient headroom to meet ongoing and future requests for 1Gb connectivity. Therefore, the Exchange does not propose to alter 1Gb connectivity and will continue to provide 1Gb connectivity over a shared network and provide access to both the Exchange and MIAX over a single 1Gb connection.

The Exchange has two categories of Members: Market Makers<sup>9</sup> and Electronic Exchange Members<sup>10</sup> ("EEMs"). 10Gb ULL connectivity is predominantly used by Market Makers, latency sensitive liquidity removers, or those that require higher throughput (i.e., greater than 1Gb). 1Gb connectivity is predominately used by EEMs who are less latency sensitive and tend

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<sup>9</sup> The term "Market Maker" or "MM" means a Member registered with the Exchange for the purpose of making markets in options contracts traded on the Exchange and that is vested with the rights and responsibilities specified in Chapter VI of these Rules. See Exchange Rule 100.

<sup>10</sup> The term "Electronic Exchange Member" or "EEM" means the holder of a Trading Permit who is a Member representing as agent Public Customer Orders or Non-Customer Orders on the Exchange and those non-Market Maker Members conducting proprietary trading. Electronic Exchange Members are deemed "members" under the Exchange Act. See Exchange Rule 100.

to utilize a limited number of 1Gb connections. These EEMs will continue to be able to use that single 1Gb connection to access both the Exchange and MIAX. Certain EEMs use 10Gb ULL connectivity, primarily where that EEM also acts as a Market Maker either on the Exchange and/or MIAX and leverages that 10Gb ULL connection to access both exchanges. Service bureaus<sup>11</sup> also purchase 10Gb ULL connectivity and resell that connectivity to market participants who may not have direct connectivity to the Exchange.

Unlike the switches that provide 1Gb connectivity, the switches that provide 10Gb ULL connectivity have experienced a significant decrease in the availability for additional 10Gb ULL connections on each switch. This is mostly driven by the connectivity demands of latency sensitive Members (e.g., Market Makers and liquidity removers) that seek to maintain connectivity across multiple 10Gb ULL switches. Such Members do not typically use a shared 10Gb ULL connection to reach both the Exchange and MIAX due to related latency concerns. Instead, those Members maintain dedicated separate 10Gb ULL connections for the Exchange and separate dedicated 10Gb ULL connections for MIAX. This results in a much higher 10Gb ULL usage per switch by those Members on the existing shared 10Gb ULL network than would otherwise be needed if the Exchange and MIAX had their own dedicated 10Gb ULL networks, similar to that provided by other exchanges, including the Exchange's and MIAX's affiliate, MIAX Emerald. Separation of the Exchange and MIAX 10Gb ULL networks would naturally lend itself to reduced 10Gb ULL port consumption on each switch and, therefore, increased 10Gb ULL port availability for current Members and new Members.

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<sup>11</sup> Service bureaus provide access to market participants to submit and execute orders on an exchange. On the Exchange, a Service Bureau may be a Member. Some Members utilize a Service Bureau for connectivity and that Service Bureau may not be a Member. Some market participants utilize a Service Bureau who is a Member to submit orders. Only Members may submit orders or quotes through 10Gb ULL connectivity.

To date, the Exchange and MIAX have continued to add switches to meet ongoing demand for 10Gb ULL connectivity. Unfortunately, that is no longer sustainable because simply adding additional switches to expand the current shared 10Gb ULL network would not continue to alleviate the issue of limited available port connectivity. While it would result in a gain in overall port availability, the existing switches in use would continue to suffer from lack of port headroom given many latency sensitive Members' needs for a presence on each switch to reach both the Exchange and MIAX. This is because those latency sensitive Members seek to have a presence on each switch to maximize the probability of experiencing the best network performance. Those Members routinely decide to rebalance the amount of orders and/or messages over its various connections to ensure each connection is operating with maximum efficiency. Simply adding switches to the extranet is ineffective at resolving the port availability concerns on the existing extranet since many of the latency sensitive Members are unwilling to relocate their connections to a new switch due to the potential detrimental performance impact. As such, the impact of adding new switches and rebalancing ports is not effective. The Exchange has, therefore, found that ongoing and continued rebalancing once additional switches are added has had, and will continue to have, a diminishing return on increasing available 10Gb ULL connectivity.

The below example illustrates how the bifurcation of the 10Gb ULL network would lead to expanded access. This example is for illustrative purposes only. Assume the shared network includes ten (10) switches and each switch provides access via 24 10Gb ULL connections. For each switch, the numerator represents the number of consumed 10Gb ULL connections while the denominator represents the number of available 10Gb ULL connections. The "Shared Network" row illustrates the number of consumed and available 10Gb ULL connections on each switch.

The usage of the ports on the shared network are roughly distributed 50% to MIAX Options and 50% to MIAX Pearl Options. The “Single MIAX Network” and “Single Pearl Network” rows illustrate how the Exchange may double its available 10Gb ULL connections simply by bifurcating the Shared 10Gb ULL network.

<b>Switch</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Shared Network</b>	18/6	19/5	16/8	17/7	20/4	16/8	15/9	17/7	13/11	14/10
<b>Single MIAX Network</b>	9/15	9/15	8/16	8/16	10/14	8/16	7/17	8/16	6/18	7/17
<b>Single Pearl Network</b>	9/15	10/14	8/16	9/15	10/14	8/16	8/16	9/15	7/17	7/17

Based on its experience and expertise, the Exchange finds the most practical way to increase connectivity availability on its switches is to bifurcate the existing 10Gb ULL networks for the Exchange and MIAX by migrating the exchange’s connections from the shared network onto their own set of switches. If a number of new Members seek to participate in high frequency activity and require a port on each switch, they could quickly consume the available ports on the shared extranet. Further, if an existing Member seeks to temporarily double their port connections while they transition to new network and/or server infrastructure, they could consume the remaining available ports on the shared extranet. The Exchange, therefore, believes it is necessary and most efficient to bifurcate the Exchange and MIAX 10Gb ULL networks so that both exchanges can continue to satisfy ongoing and anticipated future requests for additional connectivity allowing it to provide meaningful and fair access to each market.

Bifurcating the Exchange and MIAX 10Gb ULL networks provides benefits beyond the

ability to continue to meet ongoing and anticipated connectivity demands. For example, today if there is a problem on the shared network, it could impact the operation of both the Exchange and MIAX. As national securities exchanges, the Exchange and MIAX are subject to Regulation Systems Compliance and Integrity (“Reg. SCI”).<sup>12</sup> Reg. SCI Rule 1001(a) requires that the Exchange and MIAX establish, maintain, and enforce written policies and procedures reasonably designed to ensure (among other things) that their Reg. SCI systems have levels of capacity adequate to maintain the Exchange’s and MIAX’s operational capabilities and promote the maintenance of fair and orderly markets.<sup>13</sup> By separating the 10Gb ULL networks, any potential system issue would be limited to one exchange, narrowing the impact and preventing unnecessary systems disruptions on the other exchange. Bifurcating the networks supports the Reg. SCI obligations for MIAX Pearl and MIAX in this regard by limiting any potential future risk of a systems issue to one exchange and not impacting the operations or market participants of the other exchange. Bifurcating the networks also allows each exchange to evolve separately, potentially by using different technology to cater to the unique demands of each exchange and their market participants to meet future needs.

The Exchange again notes that operating affiliated exchanges’ over separate networks is not new or novel. For example, the Exchange’s affiliate, MIAX Emerald, currently operates on a separate network.<sup>14</sup> The Exchange notes that at least one other group of affiliated exchanges operate on separate networks.<sup>15</sup>

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<sup>12</sup> 17 CFR 242.1000-1007.

<sup>13</sup> 17 CFR 242.1001(a).

<sup>14</sup> See supra note 5.

<sup>15</sup> See supra note 6.

The Exchange will file a separate proposal with the Commission pursuant to Section 19(b)(3)(A)(ii) of the Act<sup>16</sup> to: (i) set forth the applicable fees for the bifurcated 10Gb ULL network; (ii) remove provisions in the Exchange fee schedule that provides for a shared 10Gb ULL network; and (iii) specify that only the 1Gb network connection will continue to be shared by both the Exchange and MIAX. The Exchange will not bifurcate the 10Gb ULL network until it files a proposal to set forth the applicable fees for immediate effectiveness pursuant to Section 19(b)(3)(A)(ii) of the Act.<sup>17</sup>

#### Implementation

Due to the technological changes associated with this proposed change, the Exchange expects to bifurcate the Exchange and MIAX networks in the first quarter of 2023, currently anticipated to be January 23, 2023. The Exchange issued a Trading Alert on August 12, 2022 publicly announcing the planned network change and implementation plan and dates to provide market participants adequate time to prepare.<sup>18</sup> Any changes to the January 23, 2023 implementation date would be announced in a separate alert.

#### b. Statutory Basis

The Exchange believes that its proposal to bifurcate 10Gb ULL connectivity in the System networks for the Exchange and MIAX are consistent with Section 6(b) of the Act<sup>19</sup> in general, and furthers the objectives of Section 6(b)(5) of the Act in that it is designed to promote

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<sup>16</sup> 15 U.S.C. 78s(b)(3)(A)(ii).

<sup>17</sup> Id.

<sup>18</sup> See MIAX Options and MIAX Pearl Options - Announce planned network changes related to shared 10G ULL extranet, issued August 12, 2022, available at <https://www.miaxoptions.com/alerts/2022/08/12/miax-options-and-miax-pearl-options-announce-planned-network-changes-related-0> (last visited November 17, 2022).

<sup>19</sup> 15 U.S.C. 78f(b).

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 customers, issuers, brokers and dealers.

The Exchange believes that its proposal is consistent with the requirements under Section 6(b)(5)<sup>20</sup> of the Act that the Exchange's proposed changes remove impediments to and perfect the mechanism of a free and open market and a national market system. Operating affiliated exchanges on their own dedicated, separate networks is not new or novel. The Exchange notes that it and its affiliate, MIAX Emerald, currently operate on separate networks.<sup>21</sup> The Exchange is also aware of at least on other group of affiliated exchanges also operate on separate networks.<sup>22</sup>

The Exchange began to operate on a single shared network with MIAX when MIAX Pearl commenced operations as a national securities exchange on February 7, 2017.<sup>23</sup> This shared network is not an unlimited resource and its expansion is constrained by its ability to provide fair and equitable access to all market participants. Due to the ever-increasing connectivity demands, the Exchange finds it necessary to bifurcate 10Gb ULL connectivity to the Exchange's and MIAX's Systems and networks to be able to continue to meet ongoing and

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<sup>20</sup> Id.

<sup>21</sup> See supra note 5.

<sup>22</sup> See supra note 6.

<sup>23</sup> See Securities Exchange Act Release No. 80061 (February 17, 2017), 82 FR 11676 (February 24, 2017) (establishing MIAX Pearl Fee Schedule and establishing that the MENI can also be configured to provide network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facility of the MIAX Pearl's affiliate, MIAX, via a single, shared connection).

future 10Gb ULL connectivity and access demands. Unlike switches for 1Gb connectivity, switches dedicated to 10Gb ULL connectivity have experienced a significant decrease in port headroom mostly driven by connectivity demands of latency sensitive Members that seek to maintain connectivity across multiple 10Gb ULL switches. Separation of the 10Gb ULL networks of the Exchange and MIAX would naturally lend itself to reduced port consumption and, therefore, increased port availability, allowing the Exchange to continue to meet ongoing and anticipated requests for 10Gb ULL connectivity. Therefore, the Exchange believes this proposal removes impediments to and perfects the mechanism of a free and open market and a national market system.

Further, the proposed changes will allow the Exchange and MIAX to adjust the connectivity and access to their Systems in order to ensure that both markets are able to provide consistent and fair access to their Members on non-discriminatory terms and ensure sufficient capacity and headroom in their Systems. The Exchange and MIAX constantly monitor their Systems' performance based on market conditions and the potential need to make adjustments based on customer demand. Accordingly, the Exchange's obligations under Section 6(b)(5) of the Act,<sup>24</sup> market participant demand, and market conditions are key drivers of the System's architecture and expansion and, thus, the Exchange believes simply adding more switches and not bifurcating the 10Gb ULL networks is not an appropriate mechanism to provide fair and open access to the Exchange and MIAX.

The Exchange and MIAX anticipate that they will continue to expand their Systems and provide Members and other market participants with additional access based on customer demand and in response to changing market conditions. The Exchange represents that any

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<sup>24</sup> See 15 U.S.C. 78f(b).

expansion or adjustments in the number of available switches for network access will be conducted in a similar manner that ensures fair access to its System. The Exchange will also continuously assess its connectivity options and availability to ensure that they meet the needs of all market participants seeking to access the Exchange and MIAX.

The Exchange believes that its proposal is consistent with the requirements under Section 6(b)(5) of the Exchange Act that the Exchange provide access on terms that are not unfairly discriminatory and that the rules of an Exchange promote just and equitable principles of trade.<sup>25</sup> The Exchange believes the proposed changes promote just and equitable principles of trade because the proposal to split the Exchange's and MIAX's shared 10Gb ULL network connectivity will apply equally to all market participants and Members of both exchanges. The proposed bifurcation of the Exchange and MIAX 10Gb ULL network connectivity will promote just and equitable principles of trade because it will allow the Exchange and MIAX to be able to continue to offer access to their Systems on terms that are not unfairly discriminatory by continuing to meeting ongoing and anticipated connectivity demands of all Members. The shared 10Gb ULL network is not an unlimited resource of either MIAX Pearl or MIAX and its expansion is constrained by its ability to provide fair and equitable access to all market participants. The Exchange believes this proposal will allow the Exchange and MIAX to continue to be able to meet the access demands of new 10Gb ULL network connectivity subscribers and satisfy the ongoing 10Gb ULL connectivity access demands of existing subscribers.

The Exchange believes its proposal to bifurcate the 10Gb ULL networks of the Exchange and MIAX is not designed to permit unfair discrimination between customers, issuers, brokers

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<sup>25</sup> 15 U.S.C. 78f(b)(5).

and dealers because the Exchange believes that bifurcating 10Gb ULL connectivity between the Exchange and MIAX is the most practical way to increase connectivity availability on existing switches, providing fair and consistent access to all Members and potential Members that require 10Gb ULL connectivity access. The proposed change would increase available 10Gb ULL connectivity to all market participants, including Market Makers, EEMs, and Service Bureaus, enabling the Exchange to continue to meet market participants' current and anticipated connectivity needs. The Exchange also notes that certain market participants may choose to not purchase a 10Gb ULL connection to both the Exchange and MIAX if they determine that purchasing connections to both exchanges is not in their business interests or financially beneficial. Similarly, Service Bureaus may also choose to not purchase a 10Gb ULL connection to both the Exchange and MIAX if they determine that there is not sufficient demand from their customers to connect to one or both exchanges. Other Members, particularly EEMs, may choose to purchase 1Gb connectivity instead and use that single connection to access both the Exchange and MIAX.

As described in the above example, if new or existing Members deem it necessary for them to utilize additional ports on each switch, those Members will quickly consume the remaining available ports, leaving very little or no additional ports open for other Members or new Members to gain access. Further, if an existing Member seeks to temporarily increase their 10Gb ULL ports connections while they transition to a new network and/or server infrastructure, they could consume the remaining available ports. In the Exchange's experience, these types of scenarios have become more frequent, leading to the Exchange's proposal to bifurcate the 10Gb ULL networks of the Exchange and MIAX to be able to continue to provide fair access to all market participants of both exchanges. The Exchange, therefore, believes its proposal 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 because it will allow MIAX Pearl and MIAX to continue to satisfy ongoing and anticipated future requests for additional 10Gb ULL connectivity access to each market.

Lastly, the Exchange believes that its proposal is consistent with the Exchange's capacity obligations pursuant Regulation SCI.<sup>26</sup> Regulation SCI Rule 1001(a) requires that the Exchange and MIAX establish, maintain, and enforce written policies and procedures reasonably designed to ensure (among other things) that their Regulation SCI systems have levels of capacity adequate to maintain the Exchange's and MIAX's operational capabilities and promote the maintenance of fair and orderly markets.<sup>27</sup> The Exchange's proposal to separate the 10Gb ULL networks of the Exchange and MIAX would mean that any future potential System issue would be limited to only one exchange, narrowing the impact and preventing unnecessary Systems disruptions on the other exchange. This protects investors and the public interest by potentially reducing market disruptions to either MIAX Pearl or MIAX, depending on the issue, as opposed to disrupting both markets from a single event on the shared network. The Exchange believes this proposal supports the Regulation SCI obligations for the Exchange and MIAX in by limiting any potential future risk of a systems issue to one exchange and not impacting the operations or market participants of the other exchange. Bifurcating the networks also allows each exchange to evolve separately, potentially by using different technology to cater to the unique demands of each exchange and their market participants to meet future needs.

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

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<sup>26</sup> 17 CFR 242.1000-1007.

<sup>27</sup> 17 CFR 242.1001(a).

The Exchange does not believe that the proposed rule changes will impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act. Specifically, the Exchange believes the proposed changes will not impose any burden on intra-market competition because the bifurcation of the Exchange and MIAX 10Gb ULL networks would affect all Members equally and ensure that the Exchange continues to be able to satisfy all connectivity requests from all Members as requested. The Exchange believes the proposed rule changes will not impose any burden on inter-market competition. In fact, the Exchange believes that not bifurcating the Exchange and MIAX networks could have an adverse impact on inter-market competition because not doing so could hamper the Exchange's ability to expand its network to meet ongoing and future connectivity demand, which could, in turn, limit its ability to compete for Memberships and order flow. Separating its 10Gb ULL network from MIAX would enable the Exchange to better compete with other exchanges by ensuring it can provide adequate connectivity to existing and new Members, which may increase in ability to compete for order flow and deepen its liquidity pool, improving the overall quality of its market. Lastly, the Exchange believes its proposal will not impose any burden on inter-market competition because it would allow the Exchange to operate on a dedicated network in the same manner as other affiliated exchanges who operate on dedicated networks separate from their affiliates.<sup>28</sup>

**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**

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<sup>28</sup> See supra notes 5 and 6.

**Effectiveness Pursuant to Section 19(b)(2)**

Pursuant to Section 19(b)(3)(A) of the Act<sup>29</sup> and Rule 19b-4(f)(6)<sup>30</sup> thereunder, the Exchange has designated this proposal as one that effects a change that: (i) does not significantly affect the protection of investors or the public interest; (ii) does not impose any significant burden on competition; and (iii) by its terms, does not become operative for 30 days after the date of the filing, or such shorter time as the Commission may designate if consistent with the protection of investors and the public interest.

The Exchange believes that the proposed changes do not affect the protection of investors or the public interest because the Exchange seeks to bifurcate the Exchange and MIAX 10Gb ULL network so that it may continue to meet ongoing and anticipated demand for 10Gb ULL connectivity. The Exchange also notes that operating affiliated exchanges separate networks is occurs today. For example, the Exchange and its affiliate, MIAX Emerald, currently operate on separate networks.<sup>31</sup> The Exchange is also aware of at least one other group of affiliated exchanges that also operate on separate networks.<sup>32</sup> Therefore, the Exchange believes this proposal does not raise any new or novel issues not already considered by the Commission.

Separating the 10Gb ULL networks would also ensure that any potential system issue would be limited to one exchange, narrowing the impact and preventing unnecessary systems disruptions on the other exchange, thereby benefiting the protection of investors or the public interest. Bifurcating the networks also supports the Regulation SCI obligations for MIAX Pearl

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<sup>29</sup> 15 U.S.C. 78s(b)(3)(A).

<sup>30</sup> 17 CFR 240.19b-4(f)(6).

<sup>31</sup> See supra note 5.

<sup>32</sup> See supra note 6.

and MIAX in this regard by limiting any potential future risk of a systems issue to one exchange. Bifurcating the 10Gb ULL networks would also allow each exchange to evolve separately, potentially by using different technology to cater to the unique demands of each exchange and their market participants to meet future needs to the benefit of all market participants.

Continuing to operate the Exchange and MIAX on a shared 10Gb ULL network could adversely affect the public interest because it could hamper the Exchange's ability to expand its network and satisfy anticipated new requests for 10Gb ULL connectivity, impacting market participants' trading on the Exchange. Further, the Exchange believes these proposed changes do not impose any significant burden on competition because bifurcating the Exchange to separate its 10Gb ULL network from MIAX would enable the Exchange to better compete with other exchanges by ensuring it can continue to provide adequate connectivity to existing and new Members and attract additional order flow. Accordingly, the Exchange has filed this rule filing as non-controversial under Section 19(b)(3)(A) of the Act<sup>33</sup> and paragraph (f)(6) of Rule 19b-4 thereunder.<sup>34</sup>

Rule 19b-4(f)(6) requires a self-regulatory organization to give the Commission written notice of its intent to file the proposed rule change at least five business days prior to the date of filing of the proposed rule change, or such shorter time as designated by the Commission. The Exchange has satisfied this requirement. Furthermore, a proposed rule change filed pursuant to Rule 19b-4(f)(6) under the Act<sup>35</sup> normally does not become operative for 30 days after the date

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<sup>33</sup> 17 CFR 240.19b-4.

<sup>34</sup> 17 CFR 240.19b-4(f)(6).

<sup>35</sup> Id.

of its filing. However, Rule 19b-4(f)(6)<sup>36</sup> permits the Commission to designate a shorter time if such action is consistent with the protection of investors and the public interest.

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.

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

Not applicable.

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

Not applicable.

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

Not applicable.

**11. Exhibits**

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

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<sup>36</sup>

Id.

**EXHIBIT 1**

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34- ; File No. SR-PEARL-2022-60)

December \_\_\_\_\_, 2022

Self-Regulatory Organizations: Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by MIAX PEARL, LLC to no Longer Operate its 10 Gigabit Ultra-Low Latency Connectivity on a Single Shared Network with its Affiliate, Miami International Securities Exchange, LLC

Pursuant to the provisions of Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> notice is hereby given that on December \_\_\_\_, 2022, MIAX PEARL, LLC (“MIAX Pearl” or the “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 no longer operate 10 gigabit (“Gb”) ultra-low latency (“ULL”) connectivity to the Exchange on a single shared network with its affiliate, Miami International Securities Exchange, LLC (“MIAX”), due to ever-increasing capacity constraints and to accommodate anticipated access needs for Members<sup>3</sup> and other market participants.

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

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

<sup>3</sup> The term “Member” means an individual or organization that is registered with the Exchange pursuant to Chapter II of these Rules for purposes of trading on the Exchange as an “Electronic Exchange Member” or “Market Maker.” Members are deemed “members” under the Exchange Act. See Exchange Rule 100.

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

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

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

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

1. Purpose

The Exchange proposes to no longer operate 10Gb ULL connectivity to the Exchange on a single shared network with its affiliate, MIAX, due to ever-increasing capacity constraints and to accommodate anticipated access needs for Members and other market participants. The Exchange has shared a single network with MIAX since MIAX Pearl became operational on February 6, 2017.<sup>4</sup> On the contrary, the Exchange and its other affiliate, MIAX Emerald, LLC (“MIAX Emerald”), operate on separate, unshared 10Gb ULL networks, since the launch of

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<sup>4</sup> See Press Release “MIAX PEARL Successfully Launches Trading Operations” (February 7, 2017), available at [https://www.miaxoptions.com/press-releases?\\_miax\\_filter\\_created%5Bmin%5D=2017-02-01+00%3A00%3A00&\\_miax\\_filter\\_created%5Bmax%5D=2017-02-28+23%3A59%3A59&actions=&\\_miax\\_filter\\_month=2&\\_miax\\_filter\\_year=2017](https://www.miaxoptions.com/press-releases?_miax_filter_created%5Bmin%5D=2017-02-01+00%3A00%3A00&_miax_filter_created%5Bmax%5D=2017-02-28+23%3A59%3A59&actions=&_miax_filter_month=2&_miax_filter_year=2017); see also Securities Exchange Act Release No. 79543 (December 13, 2016), 81 FR 92901 (December 20, 2016) (File No. 10-227) (order approving application of MIAX PEARL, LLC for registration as a national securities exchange).

MIAX Emerald in March 2019.<sup>5</sup> The Exchange believes this separated network structure is also similar to at least one other national securities exchange group with multiple exchanges.<sup>6</sup>

Operating two separate national securities exchanges on a single shared network provided certain benefits, such as streamlined connectivity to multiple exchanges, and simplified exchange infrastructure. However, doing so is no longer sustainable due to ever-increasing capacity constraints and current System<sup>7</sup> limitations. The network is not an unlimited resource. As described more fully below, the connectivity needs of Members and market participants increased every year since the launch of the Exchange and the operations of the Exchange and MIAX on a single shared 10Gb ULL network is no longer feasible. This requires constant System expansion to meet Member demand for additional ports and 10Gb ULL connections, which has resulted in limited available System headroom (described in detail below). Therefore, the Exchange proposes to provide 10Gb ULL connectivity to the Exchange and MIAX on separate networks so that the Exchange and MIAX may increase their respective System capacities to meet the ongoing and anticipated connectivity needs of Members, prospective Members, and other market participants.

The Exchange began to operate on a single shared network with MIAX when the

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<sup>5</sup> See Securities Exchange Act Release No. 87877 (December 31, 2019), 85 FR 738 (January 7, 2020) (SR-EMERALD-2019-39) (proposal to adopt connectivity fees without providing access to MIAX Emerald's affiliates, MIAX and MIAX Pearl, via a single shared connection).

<sup>6</sup> See the Physical Connectivity Fees sections of the Cboe BYX Exchange, Inc. ("BYX"), Cboe BZX Exchange, Inc. ("BZX"), Cboe EDGA Exchange, Inc. ("EDGA"), and Cboe EDGX Exchange, Inc. ("EDGX", collectively with BYX, BZX, and EDGA, the "Cboe Equity Exchanges") equity fee schedules (not providing that a single port provides connectivity to each of Cboe Equity Exchanges).

<sup>7</sup> The term "System" means the automated trading system used by the Exchange for the trading of securities. See Exchange Rule 100.

Exchange commenced operations as a national securities exchange on February 7, 2017.<sup>8</sup> The Exchange and MIAX have operated on a single shared network to provide Members with a single convenient set of access points for both exchanges. Both the Exchange and MIAX offer two methods of connectivity, 1Gb and 10Gb ULL connections. The 1Gb connection services are supported by a discrete set of switches providing 1Gb access ports to Members. The 10Gb ULL connection services are supported by a second and mutually exclusive set of switches providing 10Gb ULL access ports to Members. Today, both the 1Gb and 10Gb ULL shared extranet ports allow Members to use one connection to access both exchanges, namely their trading platforms, market data systems, test systems, and disaster recovery facilities.

As stated above, the shared network is not an unlimited resource and its expansion is constrained by MIAX Pearl's and MIAX's ability to provide fair and equitable access to all market participants of both markets. The Exchange and MIAX continue to be able to meet the access demands of new subscribers and satisfy the ongoing access demands of existing subscribers. However, over time, due to the ever-increasing connectivity demands, the Exchange now finds it necessary to bifurcate 10Gb ULL connectivity to the Exchange's and MIAX's Systems and networks to be able to continue to meet ongoing and future 10Gb ULL connectivity and access demands. Currently, the Exchange maintains sufficient headroom to meet ongoing and future requests for 1Gb connectivity. Therefore, the Exchange does not propose to alter 1Gb connectivity and will continue to provide 1Gb connectivity over a shared network and provide access to both the Exchange and MIAX over a single 1Gb connection.

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<sup>8</sup> See Securities Exchange Act Release No. 80061 (February 17, 2017), 82 FR 11676 (February 24, 2017) (establishing MIAX Pearl Fee Schedule and establishing that the MENI can also be configured to provide network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facility of the MIAX Pearl's affiliate, MIAX, via a single, shared connection).

The Exchange has two categories of Members: Market Makers<sup>9</sup> and Electronic Exchange Members<sup>10</sup> (“EEMs”). 10Gb ULL connectivity is predominantly used by Market Makers, latency sensitive liquidity removers, or those that require higher throughput (i.e., greater than 1Gb). 1Gb connectivity is predominately used by EEMs who are less latency sensitive and tend to utilize a limited number of 1Gb connections. These EEMs will continue to be able to use that single 1Gb connection to access both the Exchange and MIAX. Certain EEMs use 10Gb ULL connectivity, primarily where that EEM also acts as a Market Maker either on the Exchange and/or MIAX and leverages that 10Gb ULL connection to access both exchanges. Service bureaus<sup>11</sup> also purchase 10Gb ULL connectivity and resell that connectivity to market participants who may not have direct connectivity to the Exchange.

Unlike the switches that provide 1Gb connectivity, the switches that provide 10Gb ULL connectivity have experienced a significant decrease in the availability for additional 10Gb ULL connections on each switch. This is mostly driven by the connectivity demands of latency sensitive Members (e.g., Market Makers and liquidity removers) that seek to maintain connectivity across multiple 10Gb ULL switches. Such Members do not typically use a shared

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<sup>9</sup> The term “Market Maker” or “MM” means a Member registered with the Exchange for the purpose of making markets in options contracts traded on the Exchange and that is vested with the rights and responsibilities specified in Chapter VI of these Rules. See Exchange Rule 100.

<sup>10</sup> The term “Electronic Exchange Member” or “EEM” means the holder of a Trading Permit who is a Member representing as agent Public Customer Orders or Non-Customer Orders on the Exchange and those non-Market Maker Members conducting proprietary trading. Electronic Exchange Members are deemed “members” under the Exchange Act. See Exchange Rule 100.

<sup>11</sup> Service bureaus provide access to market participants to submit and execute orders on an exchange. On the Exchange, a Service Bureau may be a Member. Some Members utilize a Service Bureau for connectivity and that Service Bureau may not be a Member. Some market participants utilize a Service Bureau who is a Member to submit orders. Only Members may submit orders or quotes through 10Gb ULL connectivity.

10Gb ULL connection to reach both the Exchange and MIAX due to related latency concerns. Instead, those Members maintain dedicated separate 10Gb ULL connections for the Exchange and separate dedicated 10Gb ULL connections for MIAX. This results in a much higher 10Gb ULL usage per switch by those Members on the existing shared 10Gb ULL network than would otherwise be needed if the Exchange and MIAX had their own dedicated 10Gb ULL networks, similar to that provided by other exchanges, including the Exchange's and MIAX's affiliate, MIAX Emerald. Separation of the Exchange and MIAX 10Gb ULL networks would naturally lend itself to reduced 10Gb ULL port consumption on each switch and, therefore, increased 10Gb ULL port availability for current Members and new Members.

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

are added has had, and will continue to have, a diminishing return on increasing available 10Gb ULL connectivity.

The below example illustrates how the bifurcation of the 10Gb ULL network would lead to expanded access. This example is for illustrative purposes only. Assume the shared network includes ten (10) switches and each switch provides access via 24 10Gb ULL connections. For each switch, the numerator represents the number of consumed 10Gb ULL connections while the denominator represents the number of available 10Gb ULL connections. The “Shared Network” row illustrates the number of consumed and available 10Gb ULL connections on each switch. The usage of the ports on the shared network are roughly distributed 50% to MIAX Options and 50% to MIAX Pearl Options. The “Single MIAX Network” and “Single Pearl Network” rows illustrate how the Exchange may double its available 10Gb ULL connections simply by bifurcating the Shared 10Gb ULL network.

<b>Switch</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Shared Network</b>	18/6	19/5	16/8	17/7	20/4	16/8	15/9	17/7	13/11	14/10
<b>Single MIAX Network</b>	9/15	9/15	8/16	8/16	10/14	8/16	7/17	8/16	6/18	7/17
<b>Single Pearl Network</b>	9/15	10/14	8/16	9/15	10/14	8/16	8/16	9/15	7/17	7/17

Based on its experience and expertise, the Exchange finds the most practical way to increase connectivity availability on its switches is to bifurcate the existing 10Gb ULL networks for the Exchange and MIAX by migrating the exchange’s connections from the shared network onto their own set of switches. If a number of new Members seek to participate in high frequency activity and require a port on each switch, they could quickly consume the available ports on the shared extranet. Further, if an existing Member seeks to temporarily double their port connections while they transition to new network and/or server infrastructure, they could

consume the remaining available ports on the shared extranet. The Exchange, therefore, believes it is necessary and most efficient to bifurcate the Exchange and MIAX 10Gb ULL networks so that both exchanges can continue to satisfy ongoing and anticipated future requests for additional connectivity allowing it to provide meaningful and fair access to each market.

Bifurcating the Exchange and MIAX 10Gb ULL networks provides benefits beyond the ability to continue to meet ongoing and anticipated connectivity demands. For example, today if there is a problem on the shared network, it could impact the operation of both the Exchange and MIAX. As national securities exchanges, the Exchange and MIAX are subject to Regulation Systems Compliance and Integrity (“Reg. SCI”).<sup>12</sup> Reg. SCI Rule 1001(a) requires that the Exchange and MIAX establish, maintain, and enforce written policies and procedures reasonably designed to ensure (among other things) that their Reg. SCI systems have levels of capacity adequate to maintain the Exchange’s and MIAX’s operational capabilities and promote the maintenance of fair and orderly markets.<sup>13</sup> By separating the 10Gb ULL networks, any potential system issue would be limited to one exchange, narrowing the impact and preventing unnecessary systems disruptions on the other exchange. Bifurcating the networks supports the Reg. SCI obligations for MIAX Pearl and MIAX in this regard by limiting any potential future risk of a systems issue to one exchange and not impacting the operations or market participants of the other exchange. Bifurcating the networks also allows each exchange to evolve separately, potentially by using different technology to cater to the unique demands of each exchange and their market participants to meet future needs.

The Exchange again notes that operating affiliated exchanges’ over separate networks is not new or novel. For example, the Exchange’s affiliate, MIAX Emerald, currently operates on a

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<sup>12</sup> 17 CFR 242.1000-1007.

<sup>13</sup> 17 CFR 242.1001(a).

separate network.<sup>14</sup> The Exchange notes that at least one other group of affiliated exchanges operate on separate networks.<sup>15</sup>

The Exchange will file a separate proposal with the Commission pursuant to Section 19(b)(3)(A)(ii) of the Act<sup>16</sup> to: (i) set forth the applicable fees for the bifurcated 10Gb ULL network; (ii) remove provisions in the Exchange fee schedule that provides for a shared 10Gb ULL network; and (iii) specify that only the 1Gb network connection will continue to be shared by both the Exchange and MIAX. The Exchange will not bifurcate the 10Gb ULL network until it files a proposal to set forth the applicable fees for immediate effectiveness pursuant to Section 19(b)(3)(A)(ii) of the Act.<sup>17</sup>

### Implementation

Due to the technological changes associated with this proposed change, the Exchange expects to bifurcate the Exchange and MIAX networks in the first quarter of 2023, currently anticipated to be January 23, 2023. The Exchange issued a Trading Alert on August 12, 2022 publicly announcing the planned network change and implementation plan and dates to provide market participants adequate time to prepare.<sup>18</sup> Any changes to the January 23, 2023 implementation date would be announced in a separate alert.

## 2. Statutory Basis

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<sup>14</sup> See supra note 5.

<sup>15</sup> See supra note 6.

<sup>16</sup> 15 U.S.C. 78s(b)(3)(A)(ii).

<sup>17</sup> Id.

<sup>18</sup> See MIAX Options and MIAX Pearl Options - Announce planned network changes related to shared 10G ULL extranet, issued August 12, 2022, available at <https://www.miaxoptions.com/alerts/2022/08/12/miax-options-and-miax-pearl-options-announce-planned-network-changes-related-0> (last visited November 17, 2022).

The Exchange believes that its proposal to bifurcate 10Gb ULL connectivity in the System networks for the Exchange and MIAX are consistent with Section 6(b) of the Act<sup>19</sup> in general, and furthers the objectives of Section 6(b)(5) of the Act 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 customers, issuers, brokers and dealers.

The Exchange believes that its proposal is consistent with the requirements under Section 6(b)(5)<sup>20</sup> of the Act that the Exchange's proposed changes remove impediments to and perfect the mechanism of a free and open market and a national market system. Operating affiliated exchanges on their own dedicated, separate networks is not new or novel. The Exchange notes that it and its affiliate, MIAX Emerald, currently operate on separate networks.<sup>21</sup> The Exchange is also aware of at least one other group of affiliated exchanges also operate on separate networks.<sup>22</sup>

The Exchange began to operate on a single shared network with MIAX when MIAX Pearl commenced operations as a national securities exchange on February 7, 2017.<sup>23</sup> This shared network is not an unlimited resource and its expansion is constrained by its ability to

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<sup>19</sup> 15 U.S.C. 78f(b).

<sup>20</sup> Id.

<sup>21</sup> See supra note 5.

<sup>22</sup> See supra note 6.

<sup>23</sup> See Securities Exchange Act Release No. 80061 (February 17, 2017), 82 FR 11676 (February 24, 2017) (establishing MIAX Pearl Fee Schedule and establishing that the MENI can also be configured to provide network connectivity to the trading platforms, market data systems, test systems, and disaster recovery facility of the MIAX Pearl's affiliate, MIAX, via a single, shared connection).

provide fair and equitable access to all market participants. Due to the ever-increasing connectivity demands, the Exchange finds it necessary to bifurcate 10Gb ULL connectivity to the Exchange's and MIAX's Systems and networks to be able to continue to meet ongoing and future 10Gb ULL connectivity and access demands. Unlike switches for 1Gb connectivity, switches dedicated to 10Gb ULL connectivity have experienced a significant decrease in port headroom mostly driven by connectivity demands of latency sensitive Members that seek to maintain connectivity across multiple 10Gb ULL switches. Separation of the 10Gb ULL networks of the Exchange and MIAX would naturally lend itself to reduced port consumption and, therefore, increased port availability, allowing the Exchange to continue to meet ongoing and anticipated requests for 10Gb ULL connectivity. Therefore, the Exchange believes this proposal removes impediments to and perfects the mechanism of a free and open market and a national market system.

Further, the proposed changes will allow the Exchange and MIAX to adjust the connectivity and access to their Systems in order to ensure that both markets are able to provide consistent and fair access to their Members on non-discriminatory terms and ensure sufficient capacity and headroom in their Systems. The Exchange and MIAX constantly monitor their Systems' performance based on market conditions and the potential need to make adjustments based on customer demand. Accordingly, the Exchange's obligations under Section 6(b)(5) of the Act,<sup>24</sup> market participant demand, and market conditions are key drivers of the System's architecture and expansion and, thus, the Exchange believes simply adding more switches and not bifurcating the 10Gb ULL networks is not an appropriate mechanism to provide fair and open access to the Exchange and MIAX.

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<sup>24</sup> See 15 U.S.C. 78f(b).

The Exchange and MIAX anticipate that they will continue to expand their Systems and provide Members and other market participants with additional access based on customer demand and in response to changing market conditions. The Exchange represents that any expansion or adjustments in the number of available switches for network access will be conducted in a similar manner that ensures fair access to its System. The Exchange will also continuously assess its connectivity options and availability to ensure that they meet the needs of all market participants seeking to access the Exchange and MIAX.

The Exchange believes that its proposal is consistent with the requirements under Section 6(b)(5) of the Exchange Act that the Exchange provide access on terms that are not unfairly discriminatory and that the rules of an Exchange promote just and equitable principles of trade.<sup>25</sup> The Exchange believes the proposed changes promote just and equitable principles of trade because the proposal to split the Exchange's and MIAX's shared 10Gb ULL network connectivity will apply equally to all market participants and Members of both exchanges. The proposed bifurcation of the Exchange and MIAX 10Gb ULL network connectivity will promote just and equitable principles of trade because it will allow the Exchange and MIAX to be able to continue to offer access to their Systems on terms that are not unfairly discriminatory by continuing to meeting ongoing and anticipated connectivity demands of all Members. The shared 10Gb ULL network is not an unlimited resource of either MIAX Pearl or MIAX and its expansion is constrained by its ability to provide fair and equitable access to all market participants. The Exchange believes this proposal will allow the Exchange and MIAX to continue to be able to meet the access demands of new 10Gb ULL network connectivity subscribers and satisfy the ongoing 10Gb ULL connectivity access demands of existing

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<sup>25</sup> 15 U.S.C. 78f(b)(5).

subscribers.

The Exchange believes its proposal to bifurcate the 10Gb ULL networks of the Exchange and MIAX is not designed to permit unfair discrimination between customers, issuers, brokers and dealers because the Exchange believes that bifurcating 10Gb ULL connectivity between the Exchange and MIAX is the most practical way to increase connectivity availability on existing switches, providing fair and consistent access to all Members and potential Members that require 10Gb ULL connectivity access. The proposed change would increase available 10Gb ULL connectivity to all market participants, including Market Makers, EEMs, and Service Bureaus, enabling the Exchange to continue to meet market participants' current and anticipated connectivity needs. The Exchange also notes that certain market participants may choose to not purchase a 10Gb ULL connection to both the Exchange and MIAX if they determine that purchasing connections to both exchanges is not in their business interests or financially beneficial. Similarly, Service Bureaus may also choose to not purchase a 10Gb ULL connection to both the Exchange and MIAX if they determine that there is not sufficient demand from their customers to connect to one or both exchanges. Other Members, particularly EEMs, may choose to purchase 1Gb connectivity instead and use that single connection to access both the Exchange and MIAX.

As described in the above example, if new or existing Members deem it necessary for them to utilize additional ports on each switch, those Members will quickly consume the remaining available ports, leaving very little or no additional ports open for other Members or new Members to gain access. Further, if an existing Member seeks to temporarily increase their 10Gb ULL ports connections while they transition to a new network and/or server infrastructure, they could consume the remaining available ports. In the Exchange's experience, these types of scenarios have become more frequent, leading to the Exchange's proposal to bifurcate the 10Gb

ULL networks of the Exchange and MIAX to be able to continue to provide fair access to all market participants of both exchanges. The Exchange, therefore, believes its proposal 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 because it will allow MIAX Pearl and MIAX to continue to satisfy ongoing and anticipated future requests for additional 10Gb ULL connectivity access to each market.

Lastly, the Exchange believes that its proposal is consistent with the Exchange's capacity obligations pursuant Regulation SCI.<sup>26</sup> Regulation SCI Rule 1001(a) requires that the Exchange and MIAX establish, maintain, and enforce written policies and procedures reasonably designed to ensure (among other things) that their Regulation SCI systems have levels of capacity adequate to maintain the Exchange's and MIAX's operational capabilities and promote the maintenance of fair and orderly markets.<sup>27</sup> The Exchange's proposal to separate the 10Gb ULL networks of the Exchange and MIAX would mean that any future potential System issue would be limited to only one exchange, narrowing the impact and preventing unnecessary Systems disruptions on the other exchange. This protects investors and the public interest by potentially reducing market disruptions to either MIAX Pearl or MIAX, depending on the issue, as opposed to disrupting both markets from a single event on the shared network. The Exchange believes this proposal supports the Regulation SCI obligations for the Exchange and MIAX in by limiting any potential future risk of a systems issue to one exchange and not impacting the operations or market participants of the other exchange. Bifurcating the networks also allows each exchange to evolve separately, potentially by using different technology to cater to the unique demands of each exchange and their market participants to meet future needs.

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<sup>26</sup> 17 CFR 242.1000-1007.

<sup>27</sup> 17 CFR 242.1001(a).

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

The Exchange does not believe that the proposed rule changes will impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act. Specifically, the Exchange believes the proposed changes will not impose any burden on intra-market competition because the bifurcation of the Exchange and MIAX 10Gb ULL networks would affect all Members equally and ensure that the Exchange continues to be able to satisfy all connectivity requests from all Members as requested. The Exchange believes the proposed rule changes will not impose any burden on inter-market competition. In fact, the Exchange believes that not bifurcating the Exchange and MIAX networks could have an adverse impact on inter-market competition because not doing so could hamper the Exchange's ability to expand its network to meet ongoing and future connectivity demand, which could, in turn, limit its ability to compete for Memberships and order flow. Separating its 10Gb ULL network from MIAX would enable the Exchange to better compete with other exchanges by ensuring it can provide adequate connectivity to existing and new Members, which may increase in ability to compete for order flow and deepen its liquidity pool, improving the overall quality of its market. Lastly, the Exchange believes its proposal will not impose any burden on inter-market competition because it would allow the Exchange to operate on a dedicated network in the same manner as other affiliated exchanges who operate on dedicated networks separate from their affiliates.<sup>28</sup>

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

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<sup>28</sup> See supra notes 5 and 6.

Because the foregoing proposed rule change does not: (i) Significantly affect the protection of investors or the public interest; (ii) impose any significant burden on competition; and (iii) become operative for 30 days after the date of the filing, or such shorter time as the Commission may designate, it has become effective pursuant to 19(b)(3)(A) of the Act<sup>29</sup> and Rule 19b-4(f)(6)<sup>30</sup> 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-2022-60 on the subject line

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<sup>29</sup> 15 U.S.C. 78s(b)(3)(A).

<sup>30</sup> 17 CFR 240.19b-4(f)(6). In addition, Rule 19b-4(f)(6) requires a self-regulatory organization to give the Commission written notice of its intent to file the proposed rule change at least five business days prior to the date of filing of the proposed rule change, or such shorter time as designated by the Commission. The Exchange has satisfied this requirement.

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-2022-60. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (<http://www.sec.gov/rules/sro.shtml>).

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

All submissions should refer to File Number SR-PEARL-2022-60 and should be submitted on or before [insert date 21 days from publication in the Federal Register]. For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>31</sup>

Vanessa Countryman  
Secretary

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<sup>31</sup> 17 CFR 200.30-3(a)(12).